

MINICAM

For Every CAMERA User

25¢

Published Monthly

Shoot with



- Whether outdoors or in, compose for color by arranging hues.



- Use plain backgrounds without distracting objects.



- Indoors or out, use relatively flat lighting.



- Correct exposure is necessary for correct color rendition.

LOADING a camera with its first roll of color film produces a new thrill—and also a lot of questions. Soon it is learned, for example, that Dufaycolor film is obtainable in all the standard roll film sizes from 35 mm. to 2½ by 4¼ inches. For amateur movies, Kodachrome is available in 8 mm. or 16 mm.

Loading proceeds as usual, but before snapping a picture, there are four details to be checked mentally.

(1) Composing for color. In black and white, areas of light and shade are arranged. In color work, hues are arranged.

(2) Choosing a background. Use a light-colored monotone, perhaps pale blue or warm tan, to suit the color of the subject. Blue sky makes an excellent background. Sometimes a dark background is desirable. In any case, the background must be either lighter or darker than the subject in order to permit the latter to stand out. Avoid brilliant colors or intricate designs which distract attention from the picture's center of interest.

(3) Lighting. As shadows reproduce black, relatively flat, even lighting is desired. With Dufaycolor, no filter is used for flash lighting, but with flood bulbs, a Dufay blue filter is required.

(4) What exposure? Color film is necessarily slower than black and white. The average exposure outdoors in bright sunlight during October with Dufaycolor would be *f*5.6 at 1/50th second. This may be used as a basic exposure and varied to suit the conditions described in the article "Exposure at a Glance" in this issue. The use of an exposure meter or the exposure table furnished with each roll of film is highly recommended.

Correct exposure is important to proper color reproduction. If a transparency is dense and colors too dark, then it was underexposed. If a transparency is too light, and has a washed-out appearance, then it was overexposed.

Portraiture is one of the most gratifying types of subject matter for Dufaycolor snapshooting indoors or outdoors. The rich flesh tones seen in the transparency are vibrant with life, the eyes sparkle, and the little piece of color film seems to talk.



WHERE ARE YOU GOING NEXT?

IF you're supplied with all 6 of Agfa's great miniature camera films, it doesn't matter where you go . . . or what picture opportunities you run into. For among these 6 films you will find exactly the one you need for any type of photography.

1. *Ultra-Speed Pan* . . . highest speed known for miniature-camera film! For use under "impossible" light conditions.
2. *Agfa Superpan Supreme* . . . an all-around film. Surpassed in speed only by Agfa Ultra-Speed Pan, yet with an even finer grain than Fine-Grain Superpan which it replaces.

3. *Agfa Finopan* . . . panchromatic, extremely fine grain. For projection prints of unusual size.

4. *Agfa Fine-Grain Plenachrome* . . . fast, fine-grained, orthochromatic. Insures clear, sparkling negatives.

5. *Agfa Infra-Red* . . . gives unusual, dramatic lighting effects with beautiful clouds and startling night-effects in the daytime.

6. *Agfa Superpan Reversible* . . . fast, panchromatic. Developed by reversal process to a projection positive of beautiful quality.

MADE BY AGFA ANSCO CORPORATION IN BINGHAMTON, NEW YORK

AGFA

MINIATURE CAMERA FILMS

C O N T E N T S

Vol. 2

OCTOBER, 1938

No. 2

MINICAM MONTHLY

WILL LANE, *Editor*

COVER PLATE *Kodachrome* BY AVERY SLACK

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"In Focus"

"Art" and Portraits

Sirs:

This is a gripe letter mostly. I've been bothered ever since you ran an ad addressed to "Art Students," in the September issue. Listen, boys, those of us who read your ads are in search of information which might lead to better picture taking or making. There are a thousand magazines that run junk like that "Art" ad, so why not save MINICAM for those of us who are seriously trying to get something useful?

Now to pleasanter fare: I note with interest the letter of George Paul Bear and his match-light snaps. My husband and I have made pictures like that of several of our friends from time to time, and I pass on this little idea: We sometimes put a "spot" behind the subject, illuminating the picture from the back of the head. It frames the face or hair (it's

most effective using a full front view, where it lights up the hair and still leaves a dark area to assure emphasis on the match light in the front). It's really a very effective picture. I also use a flashlight held by the subject, just out of range of the camera. They're both welcome changes from the run-of-the-mill portraits.

MINICAM is a godsend for those of us who are just feeling our way in a new hobby. Thanks for loads of help—*real* help.

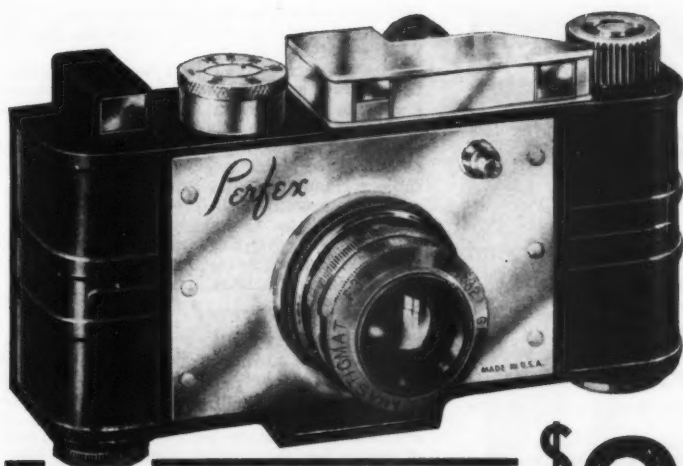
MRS. R. C. HARRIS

Chicago, Ill.

Industrial Pix Wanted

Sirs:

Can you inform us how we may be placed in contact with camera enthusiasts who are interested in taking some photographs for us in



PERFLEX \$ **25⁰⁰**
35 m/m S-P-E-E-D CANDID
 Case Extra \$4.50

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- BUILT-IN EXPOSURE METER • FOCAL PLANE (1/500) SHUTTER
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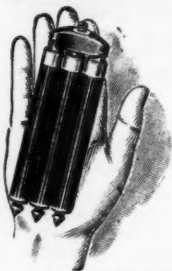
After you discover what beautiful prints Edwal 111 can produce you will be back for a second bottle and you'll gladly pay the regular price of \$1.25 per quart . . . But for the first bottle you pay only \$1.00 and use this ad for the other 25¢. Simply write your name and address on the margin, tear out the entire ad and present to your nearest dealer. One quart of Edwal 111 makes 5 to 8 quarts of solution. It is economical as well as fast and efficient.

*Order Yours
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100% practical and the ultimate in compactness. Has an improved locking device. Closed 7 1/2"; extended, 45".

In brass (18 oz.) \$9.00
In Duralumin (9 oz.) . . . \$10.50
Leather case included.

Just out! New Brooks 7-section Tripod. Weighs only 10 ounces. Closed, 10 1/4"; extended, 46". Extremely rugged despite its light weight. Without case, only \$7.00

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Light, compact, rigid, these extremely well made tripods provide a good camera support at surprisingly low cost. Legs are of hard brass tubing with double locks on each section, telescoping neatly for easy carrying. Priced as follows:

Three-section, closed, 16 1/2", extended 43 1/2" . . . \$2.00
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industrial plants in the following cities: Cincinnati, Cleveland, Buffalo, Chicago, Grand Rapids and Boston.

Our product is used in a variety of industries and we are anxious to obtain action photographs in these plants for use in advertising and publicity. We would like prints 5" x 7" glossy and we will pay from \$2.50 to \$3.00 each for acceptable ones, depending upon the subject photographed. Prints of smaller size may be submitted before enlargements are made.

STERLING PRODUCTS CO.

2457 Woodward Ave., Detroit, Mich.

Candid or Impolite?

Sirs:

MINICAM has, from the first issue, urged the use of consideration for the subject in the taking of candid shots. I have agreed with this viewpoint and have done everything in my power to further the formation of a code of ethics for the candid photographer. However, in the September issue of MINICAM, you give not only tacit approval, but also encouragement, to C. Stanton Loeber in his ruthless pursuit of unwilling subjects. In your August issue you severely criticized amateurs Biggart and Ramey for their attempt, you even "advise them not to intrude." Do you think it was less impolite for Mr. Loeber to chase an old man until he could go no farther, and then shoot a picture of him in spite of his protests?

Maybe your crusade was just a publicity stunt. Maybe the idol does have feet of clay. P.S.—Your magazine is excellent, anyhow.

WILLIS H. BLEDSOE

Lubbock, Texas.

Beginner's Darkroom

Sirs:

Have been afraid to tackle darkroom work, but now am "diving in." The article, "Developing Your First Roll of Film," was an excellent introduction.

I don't understand why it is, but knowing how to develop makes me feel I can take better pictures.

Now how about introducing us to the making of prints, enlargements, etc?

ALFRED BORSE

New York City.

*—The subjects, "Contact Printing," and "Enlarging" for beginners will be covered in the November and December issues, respectively. Ed.

Wouldn't "Build It"

Sirs:

Why do you waste time with those "Build It Yourself" items?

MINICAM, no doubt, is the most concise, compact and editorially hard-hitting publication in the photographic field. A great deal of planning must go into each issue in order to cram it so full of information.

Why, then, waste valuable space with home

made gadgets that can be bought factory-made for half the cost?

H. E. FOSTER

Boston, Mass.

Shooting In the Dark

Sirs:

I have been reading in your fine magazine about the almost impossible ways of getting a picture.

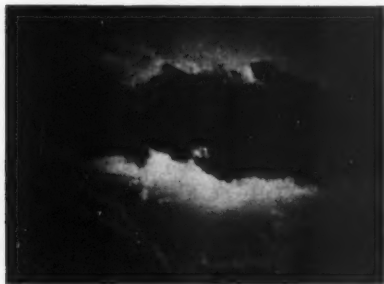
One night, an electrical storm came up and I rushed home intent on trying to catch some flashes of lightning. As luck would have it, however, the lightning died down to just diffused flashes of light.

It was with these flashes that I decided to try for a picture. With no other light, I set my Argus on a tripod, set the shutter on "time" and opened the aperture to $f/4.5$. With an exposure of 5 minutes I secured one picture—an excellent snapshot which looks as if it were taken in daylight, although at midnight on a dark night.

HARRY WILLIS

New Cumberland, Pa.

Infra-Red



Sirs:

Above is an infra-red photograph I took in mid-afternoon with Agfa Infra-Red film, Argus camera, 5X filter, $1/25$ th at $f/4.5$.

LOUIS LEGO

Ambridge, Pa.

Photomicrography

Sirs:

I am often engaged in biological experimentation and consequently have made it my hobby to take photomicrographs of the various cellular structures and specimens which I have occasion to study.

To date my collection of cell photomicrographs numbers into the hundreds. These range from minute bacterial micro-organisms to complex cancerous tumor growths.

These photos serve as indisputable, permanent records for future reference as well as constituting an interesting hobby. Negatives and contact prints furnish an excellent means of recording specimens, while the negatives themselves may be mounted for projection purposes such as lectures and demonstrations.

When I first began taking photomicrographs

NO TABLES NEEDED



when you
**SHOW
MOVIES**
with these



(Reg. U. S. Pat. Off.)

AIDS

THE CHALLENGER SCREEN

Finding a place to show your pictures is no problem when you own a Da-Lite Challenger Screen. It eliminates removing books from a table and puts an end to confusion in getting ready. With a tripod permanently attached to the metal case it can be set up in 15 seconds. Square tubing in the center rod of the tripod and the extension support (an exclusive Da-Lite feature) holds the case and screen rigid. Adjustable in height to fit any projection requirement. Insist on the genuine Da-Lite Challenger for complete satisfaction. 12 sizes from 30" x 40" to 70" x 94". From \$15.00 up.

THE PROJECTOR STAND

There is no need to get out a card table or to remove the bric-a-brac from the radio, with this convenient Da-Lite Projector Stand. It provides a rigid support, which may be adjusted in height to permit throwing pictures over the heads of the audience. It is equipped with a tilting head as shown above or a non-tilting head for sound projectors.

For professionally smooth presentations of your home movie shows, order the Da-Lite Projector Stand and Challenger Screen from your dealer today! Literature on request.

DA-LITE SCREEN COMPANY, INC.

Dept. 10M, 2723 N. Crawford Avenue, Chicago, Ill.

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SEE THE G-E EXPOSURE METER

YOU can accurately measure your exposure in those dimly-lighted spots where you have seen the possibilities of unusual shots. And extra sensitivity is just one of the advantages you get in the General Electric exposure meter; for sensitivity is combined with a wide working range so that you get correct exposure in bright sunlight or in poorly lighted interiors. There's the directional hood, too, that excludes stray light and assures you that each exposure reading is free from errors that mean poor negatives. The G-E exposure meter has *all* these better-picture features.

But don't stop there. Ask your dealer how you can use the General Electric exposure meter to determine the correct time for making your own enlargements and how to measure the transmission factor of negatives to improve your contact prints. Write for descriptive literature. General Electric, Schenectady, N. Y.

GENERAL ELECTRIC



General Electric Company
Dept. 6D201
Schenectady, N. Y.

Send me GED-678, "How to Use the General Electric Exposure Meter—in Dim Light, Medium Light, or Bright Light."

Name.....
Address.....
City..... State..... 430-121

several years ago I rigged up a very simple outfit utilizing an ancient Brownie No. 2 box camera. However, the demand for more accurate and descriptive photographs has necessitated expansion and construction of additional equipment.

Occasionally I have found it impossible to use my complex equipment and so I have found a comparatively inexpensive and cheap means of achieving the desired photomicrographs. It is by the use of a low-price miniature camera, an Argus. It is attached to the microscope with an adapter collar. After a few trials any amateur will undoubtedly obtain excellent results by this method.

Incidentally, several of my photomicrographs of cell structures won honorable mention in the 1936 Museum of Natural History Science Fair.

H. N. LESSER

New York City.

Sun-Glass Filter

Sirs:

I have always envied and admired those wonderful "cloud" scenes reprinted in MINICAM obtained with the ultimate in filters, and although admiring and envying these prints, I have found it inopportune to supply myself with the necessary filters for my National Graflex. This week, while musing on the subject of filters I glanced heavenward and upon noticing the beautiful formation of gathering storm clouds decided I would try an experimental shot. Removing my amber colored sun-glasses, I focused my camera at infinity, holding one end of the sun-glasses firmly in front of the lens of the camera—then I banged away at f16, 1/50th second. The result . . . a lovely cloud scene of which I am justly proud. I am now convinced! *It can be done*, and with the minimum of equipment, too!

M. ENGER

St. Louis, Mo.

Table Top

Sirs:

I enclose a picture that I took. I used my sister's dolls and an artificial fruit bowl, all placed on top of a table. The background consisting of French doors, a radio and other furniture, showed very plainly, so I held back the dolls and fruit bowl in printing. A Leica enlarger was used. I hope you like it.

A. FUHRMAN

Bronx, N. Y.



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Master's New Film Developer Produces Sensational Results



GAMMA 'D' Atomic Fine-Grain Developer is the result of more than a year's work with the master photographer, William Mortensen—who dictated the rigid specifications—and Dr. Albert Doran, prominent photo-chemist and research engineer. Recently made available to the public, GAMMA 'D's sensational superiority is being hailed by amateurs and professionals everywhere. Like Mr. Mortensen, who now uses it exclusively, you will find in GAMMA 'D':

1. **ATOMIC FINE GRAIN:** Finer grain and higher "resolving power" than is to be had in any other commercially available developer.
2. **SUPERB MODELING:** Owing to its long range of gradation.
3. **LUMINOUS SHADOWS:** Because its low potential permits of extended development.

4. **LONG LIFE:** A 32-oz. bottle will develop 40-50 rolls of 35 mm. film.

5. **FURTHER ADVANTAGES:** (Unique among fine-grain developers) of being, under normal conditions, non-toxic, non-staining, stabilized against light.

Oxford Products Co., Inc.

BEVERLY HILLS, CALIFORNIA

Also GAMMA 'D' Fixing Solution (75c), Hardening Solution (90c), and (for larger negatives and paper) Universal Developer (\$1.50). At your dealer's, or write Dept. M-10 for free booklet containing articles by Mr. Mortensen and Dr. Albert B. Doran.

GAMMA 'D'
ATOMIC FINE GRAIN DEVELOPER



A good picture in the sun—but—

Taken a few seconds later with a Kalart Speed Flash

TRY THIS STRIKING TECHNIQUE

\$250 Cash for Pictures

There's a lot of new fun in taking pictures with a flash in the sun. The contest for these Synchro-Sunlight pictures closes Nov. 1. Both above pictures were taken at 1-200 sec. f.8., but the one on the right was made with one standard flash bulb. Notice how much better balanced this picture is.

Beautiful October cloud effects can be obtained—with plenty of illumination in the foreground—when you use a flash in the sun. No expensive equipment needed—merely a speed flash synchronized with your camera.

See your dealer or write directly for entry blank and helpful folder. Dept. M-10, 915 Broadway, New York, N. Y.; Dept. 619, Taft Bldg., Hollywood, Calif.

The American-made Kalart Micromatic Speed Flash fits all modern cameras..... **\$13.50**

KALART PHOTOGRAPHIC DEVICES
46 Kalart Equipment made in U.S.A.

Too Many Babies

Sirs:

Babies, babies, babies—that's all you read about in the magazines, and now in September MINIGAM an article on photographing kids outdoors. It was useful—if you want to picture children all the time, but who does? Why not leave the brats for the professional portrait guys who know how to make mamas, papas and relatives say, "Ain't that Cute." Give us articles, that you can stick your teeth into. For example, why not cover the chemistry of development? A. E. HOTCHKISS
Los Angeles, Calif.

* Statistics indicate that amateurs devote more film, by far, to picturing children than any other single subject. No material on it appears in this issue, but the subject no doubt will be presented in future issues when new approaches to this important subject become available. For a discussion of chemicals used in developing, and the part each plays, see the latter part of "Controlled Enlarging," beginning on page 30.—Ed.

Clear, Concise, Etc.

Sirs:

In a recent issue you had a gem of a letter, "In Focus," by "Archie MacKay," Sapulpa, Oklahoma. It was practical, beautifully written, non-technical, clear, concise, etc. In short, I think you ought to have more letters from the same reader. ARCHIE MACKAY
Sapulpa, Okla.

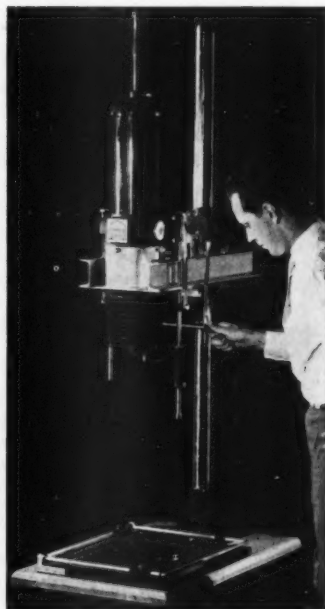
New OMEGA Takes 4x5 Negatives

Now an Omega for larger negatives—the new Model "D." It's just as soundly and beautifully built as the famous Model "A" and Model "B" Omegas, favorites among miniature camera users. And although the Model "D" is a large, impressive machine, it's as easy to use as the smaller models. That's because of the smooth operating counterbalance and long focusing lever.

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Model "B" Omega for 2 1/4"x2 1/4" and intermediate film sizes . . . \$65 without lens. Model "A" Omega for 35 mm. film . . . \$48 without lens.

Simmon products made in U. S. A. and fully guaranteed. See them at your dealer's. Write for descriptive folder G. Prices \$5 higher west of Rockies.



SIMMON BROS. 37-06 — 36th Street, Long Island City, N. Y.

Calling OCTOBER Cameras

By
LEE FORREST



TO the countryside, the green cloak of summer and the white mantle of winter are as clothes to the woman. When autumn blows in, the landscape photograph becomes either nature undressed—or a beautiful figure study. The fall pictorial picture is either definitely bad or artistically fine; there is no middle ground.

An overhead sun, at any time of the year, leaves little to the imagination. Now, the "crack of dawn" arrives at a fairly attainable hour and makes it easy to profit from sunrise hours and their long horizontal shadows.

The lazy autumn sun—no longer harsh and brilliant—is of no small value for those shots of the children going to school or men and women on the way to work. The homeward-bound crowds, too, occur at an hour when the horizontal sun is playing.

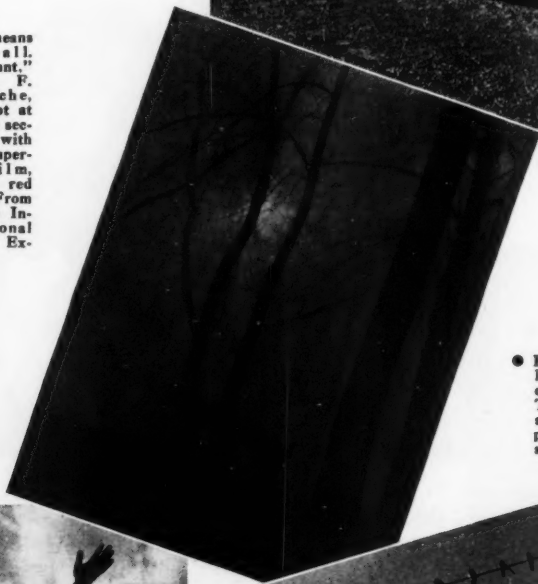
There is no need to wait with impatience anent the pictorial possibilities of the first snow. Make use of rain—warm summer water

falling, or chill drops of winter. Rain makes streets and buildings glisten. It makes people hustle. It makes pictures.

Nor is it always necessary to put on a raincoat and carry an umbrella over the camera. Doorways furnish perfect vantage points and there's hardly a cozy room that does not furnish an interesting camera composition through the window. Lift the sash—or shoot, perhaps,



- Fall means football. "The Punt," by R. F. Kniesche, was shot at 1/500th second, f9, with Agfa Superpan film, and a red filter. From the 4th International Leica Exhibit.

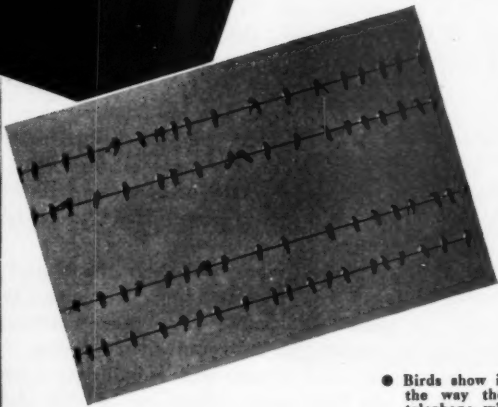
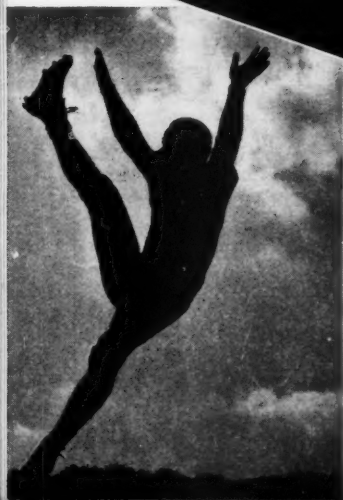


SCHOOL DAYS

By DORIS DAY

- The late-rising autumn sun, while foliage is still on the trees, furnishes low, dramatic side-lighting. Exposure f11, 1/50th, Pan film.

- Brilliant summer afternoons followed by gray days and even fog challenge rather than dismay us. The gray receding tree forms give a feeling of depth to this placid park scene. Exposure f4.5 at 1 second with the camera on a tripod.



- Birds show it's autumn by the way they cluster on telephone wires.



LET IT POUR

By KOLLAR-BLACK STAR

● "For the rain it raineth every day," the poet said. But the cameraman, staying indoors and shooting through windows, obtained some unusual effects without as much as dampening his ardour or camera lens.

through the water drops on the pane.

Breathing on the lens before making an exposure is one device for soft focus effects, but this is seldom necessary. In-

stead, use as slow an exposure as possible —on a tripod if handy. Rapid exposures, such as 1/100th or 1/200th of a second should be used only when it is desired to

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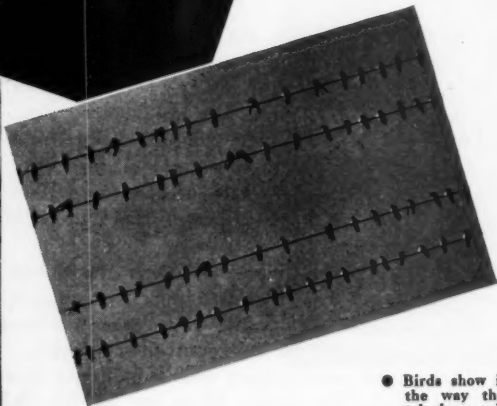
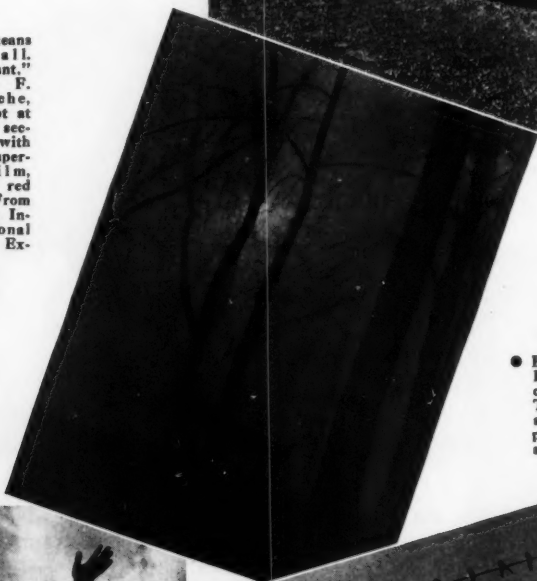
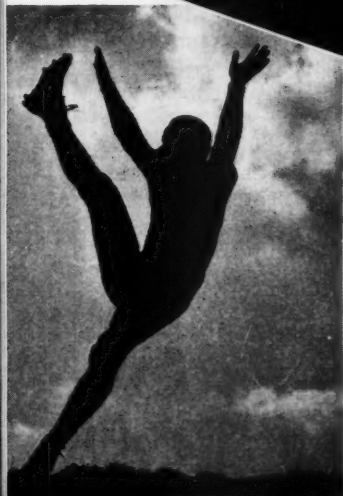


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HARVEST DAYS

By DORIS DAY

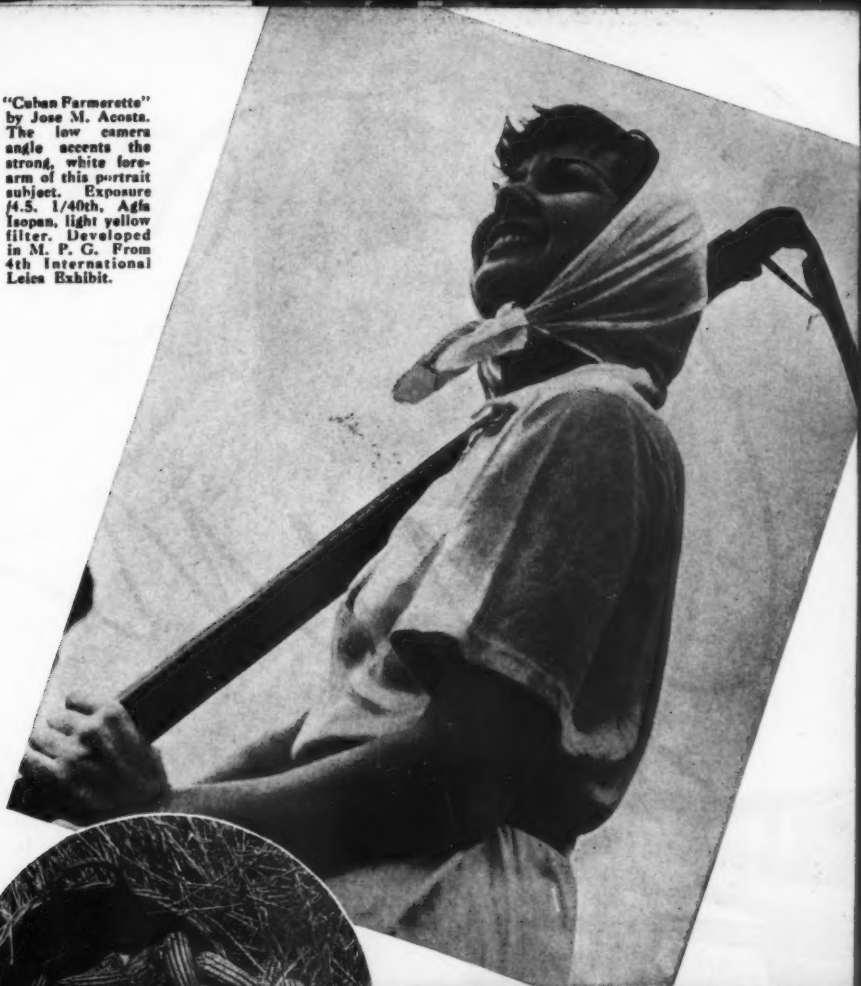
● How to break up the skyline is a number one problem in landscape studies. That is where the approach of the photographer and painter are nearest kin. The presentation of masses rather than details makes this subject possible of treatment in any medium.

cut through fog or mist and minimize its effect. Filters, too, have a haze cutting effect and are not to be used where it is desired to catch the effect of aerial mist.

Sunlight may combine with mist to create an illusion of beauty. Haze can

conceal confusing or unattractive details, and no one will ever suspect—or care—what the mist really hides. Kicking up dust is effective when the rays from the sun are broken up into slanting beams by a roof, a window or a lattice work of trees.

- "Cuban Farmerette" by Jose M. Acosta. The low camera angle accents the strong, white forearm of this portrait subject. Exposure $f/4.5$, $1/40$ th, Agfa Isopan, light yellow filter. Developed in M. P. G. From 4th International Leica Exhibit.



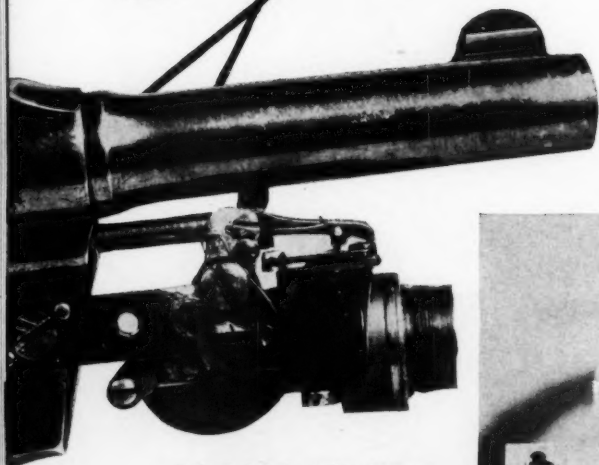
- Crops as well as people are subject matter for photographers lucky enough to witness a harvest.

- "Then Comes Popcorn" by Doris Day. One flash bulb in a table lamp hidden in the fireplace furnished the illumination. Exposure $f/8$ with shutter on "time." Note that the subjects were arranged to shield the camera from the direct rays of the light.





- The complete camera is no larger than two fingers. An inch and a half long, it weighs only 6 ounces, including lens.



- A single bolt attaches the camera. The revolver's cartridge pin turns the film magazine and operates the shutter.



- Like the gun, the camera is a six-shooter. Shown below is a strip of camera shots.



● Taken in an angle of view of 40°, the camera records when bullets miss.

Camera



Using a 1/125th second shutter speed, it stops criminals photographically when lead slugs fail to do so.

By EVANS

IN moments of stress and excitement, human evidence is notoriously unreliable. Twelve witnesses of an accident usually will give twelve widely varying stories of what happened. Although the human eye may become perturbed and inaccurate, not so the camera lens.

The gun camera measures an inch and a half from the lens to the end of the metal arm which attaches to the pistol. Only one screw is required to fasten it to the gun. The entire operation of the camera—movement of the film and tripping of the shutter, is activated by the gun's trigger. The cartridge pin directly under the barrel turns the film magazine and operates the shutter every time the trigger is pulled.

The magazine containing the highly sensitive film has a diameter smaller than a 25c coin. There are six exposures in each magazine. The film is wound around a six-faceted spool. Each time the gun is fired, a new picture is taken until all six facets are exposed. The groove

which holds the film firm against the spool acts also as check when all six pictures are exposed. In case of further firing, the exposed film thus will not be ruined by double exposure.

S. S. Pan 8 mm. movie film is used, an f3.5 fixed focus lens of ¾ inch focal length, and a fixed shutter speed of 1/125th second.

In addition to furnishing identification, the gun-camera provides invaluable evidence in cases when the plea of shooting in self defense is made.

The day is not far distant when policemen will have to be expert cameramen as well as pistol shots and the camera will be equal or greater in importance to law enforcement than the shotgun and revolver.

This is not a vague or remote conception. Training in photography already is being given to police officers, and the place of the minicam in modern criminology will be described in a forthcoming MINICAM article.



FIGURES

By H. D. E. LEE

- A conventional montage, made by means of double or multiple exposure, requires a relatively large camera equipped with a ground glass for accurate placing of the subject matter. Two or more pictures are taken on one negative, as in, "Figures". Or several negatives are projected on one sheet of paper. The illustration above is not a part of the book mentioned on the next page.

One Shot PHOTOMONTAGE

From "Lighting Ideas in Photography" Copyright, 1938, by McGraw Hill Book Co.

By WILLIAM HERRSCHAFT and JACOB DESCHIN

A simplified process for trick effects. Makes multiple exposure compositions on one negative with any camera.

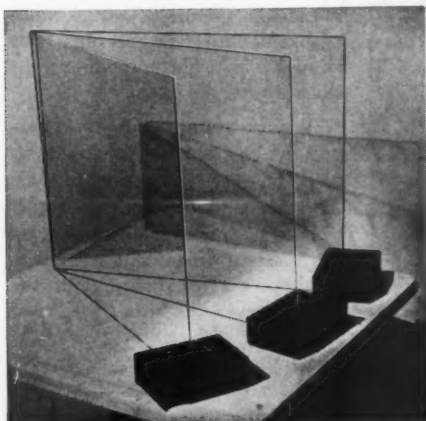
PHOTOMONTAGE—one of photography's most effective and characteristic devices—is essentially a darkroom procedure. A group of selected negatives are projected, one at a time, on a single sheet of paper. The result is one print from these several negatives. The success of the print depends on the selection and grouping of the negatives and the care, accuracy and skill with which the print is made. Among the other problems, mask-

ing off the separate negatives and timing them to produce equal tone values, makes darkroom montage a slow and painstaking procedure.

This type of photomontage probably will not be supplanted when it is desired to assemble within a single picture a number of elements that are scattered as to space, time, or place. But for the photomontage which may be made at one time in the same place, the authors propose what they feel to be a superior, new method, namely, "one-shot" photomontage. This, as will soon be seen, has many advantages over the conventional method. The picture is composed "in one piece," masking is obviated, and darkroom manipulation eliminated. The new method also permits great imaginative scope, the introduction of unusual effects in some instances not possible to achieve with the conventional photomontage method without a great deal of complicated darkroom fussing, and the use of a single negative from which the final complicated-looking picture is made by simple contact or direct enlargement printing.

Before a camera store window, one day, we noticed that we were seeing not only the window display, but also a reflection in the glass of the scene facing the store. The display of cameras and the reflected street scene mingled into an interesting composition creating a montage right before our eyes!

At home we found that the same effect



● The secret of the one-shot montage technique—sheets of ordinary window or picture frame glass supported by blocks of wood. Fig. 1

was obtainable by looking through a window from the inside, OUT. When the lighting was right we had before us a "montage" composed of the window's reflection superimposed on the outside scene.

The next step was to obtain a sheet of glass, set it up, and make "window glass montages" in which the composition could be controlled and arranged as desired. This produced the "single glass" effect—two pictures in one. To combine more than two images, it was found necessary only to utilize additional panes of glass. Mirrors also may be used. Now to describe the exact procedure.

The first requirement of the one-shot photomontage is a fairly dark room, not as light-tight, necessarily, as the photographic darkroom, but sufficiently so to permit the worker to control the illumination of the subject matter. This may be achieved by simply pulling down the window shades; at night no room will offer a problem since the relatively powerful arti-

ficial lights you will be using will be more than enough to counteract the influence of any light that may slip into the room.

Next, we need one or more sheets of plain picture glass. The dimensions of the glass should measure 16 by 20 inches, or preferably larger. This glass is easily available in the standard sizes in any art or picture-framing shop. To give completely satisfactory results, the glass should be free of the wavy lines characteristic of cheap glass. Otherwise, some distortion will be introduced. Defective glass may easily be discovered by a careful examination of the glass before purchase. Hold the glass parallel to the floor and at the level of the eyes. At this acute angle, a defective sheet of glass will easily reveal its wavy lines. A good quality of picture glass may cost a bit more, but is worth the price.

The third requirement is the lighting equipment: one relatively weak floodlight and one or more spotlights. And now to work.

Stand a sheet of plain glass on a table or other support (the latter being covered with black or dark cloth to kill foreground reflections), and keep upright by sandwiching one corner between two flat-sided objects. The best method and one that will offer assurance that the glass will stay in place, is the use of a thick block of wood with slots cut just wide enough to accommodate the thickness of the glass.

Against some sort of background, though not too close to it, place an object, just anything you like, say a flower pot, a bust, or even some human subject. Set up the glass in front of the subject, at about a 45-degree angle to the background. If you will now illuminate the subject, keeping the light beam away from the glass surface as much as possible by shading the light, and then stand before the glass, you will be able to see the subject through the



● Single-glass montage. Photographed through one pane of glass to show the subject behind the glass and a reflection on the glass of a toy doll. Fig. 2.

glass and make a straight photograph of what you see. There is no trick to that.

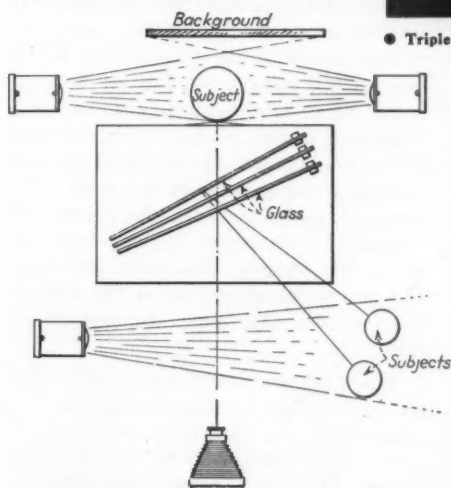
However, that is merely the beginning. Next set up another object a few feet in front of the glass and also at an angle of 45 degrees in relation to the glass. Illuminate this second object with a spotlight, adjusting the beam so that it is small enough and at the proper distance to illuminate only the desired subject. If you now set your camera a few feet in front of the glass, the glass will reveal two objects, the subject behind the glass and the reflected image of the second subject. And here, basically, you have the elementary principle of the one-shot photomontage.

The method is completely flexible, allowing the worker full con-



● Triple glass photomontage.

Fig. 4.



● Lighting and arrangement diagram for the photograph above. Fig. 3.

3. The position of the image in the vertical plane.

4. The position of the image in the horizontal plane.

We have two points to think about now: size and position in the picture space. To avoid confusion, we shall hereafter refer to the subject behind the glass as the *subject*, the subject reflected in the glass as the *image subject*, and the reflection itself as the *image*.

The size of the subject is dependent on the distance of the latter from the glass as well as the position of the camera; the size of the image is governed by the distance from image subject to glass.

The position of the subject or image in the glass—and therefore in the picture—may be manipulated in two ways:

1. By moving the subject or image subject, or both, higher or lower, to the left or to the right.

2. By tilting the glass slightly backward. This may be accomplished by placing a wedge under the glass support.

The worker will find the first method

trol of every feature of the layout. Besides the lighting, which will be discussed later, there are four things to be considered.

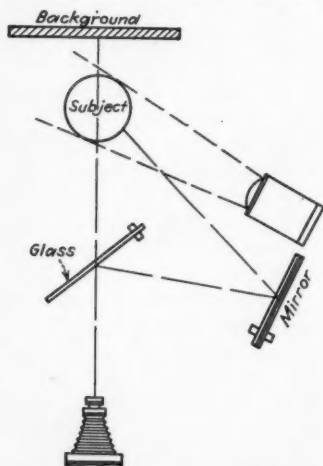
1. The relative size of the subject back of the glass.

2. The relative size of the image reflected from the second subject.

preferable, though the second may safely be resorted to when necessary, as in the case of image subjects which may not conveniently be moved about.

The lighting technique employed is of major importance. In the main, the subject will be lighted with the so-called "flood" type of illumination, an ordinary photoflood lamp in a reflector. The image subject or subjects will usually be lighted best with spotlights, because the sharp control it is possible to achieve with a spotlight will allow the worker freedom of selection as to area of the image subject it is desired to show in the glass. By manipulating the beam and moving the spotlight itself about, the worker may light this or that part of the face or figure of the image subject and leave the rest dark, that is, nonreflecting. Or one might use two spotlights on the same image subject, thus illuminating two portions of the face, for example, achieving interesting shadow effects. The illumination of the subject behind the glass must be carefully controlled so that it balances the brightness of the image reflection. For this purpose it will be necessary to keep the "main light" relatively weak.

The background for the subject behind



● If mirrors are employed, they may be supported by wood blocks in the same fashion as the glass sheets. The arrangement above is for one glass and one mirror. The latter is moved about until the desired effect is obtained. Fig. 5.

the glass, therefore the background for the picture, may be anything desired, a picture, plain light-toned wall, black curtain, or any other background ordinarily used. In general, the image subjects should be backed up with black backgrounds so that nothing is reflected into the glass except the subject. This will avoid the reflection of extraneous material. Incidentally, it should not be overlooked that a striking or interesting effect may also be created by having a black background behind the subject and a working one behind the image subject. After the worker has done some experimenting with one-shot photomontage, he will be able to work things out for himself.

Up to this point we have been discussing the one-shot photomontage as it relates to the use of a single sheet of glass. This is the basic method and one, also, that will be employed where several different image subjects are to be used in arranging the photomontage. However, the method has wider possibilities, namely, in multiplication of the same image several times, the number depending on the number of sheets of glass used. The method is illustrated in Fig. 3. Two, three, or more glasses are set erect and joined at one end, spreading out fanwise at the other. The angle of spread between the glasses will determine the degree of separation between the images: the wider the angle, the greater the separation of the images; the narrower the angle, the less separation.

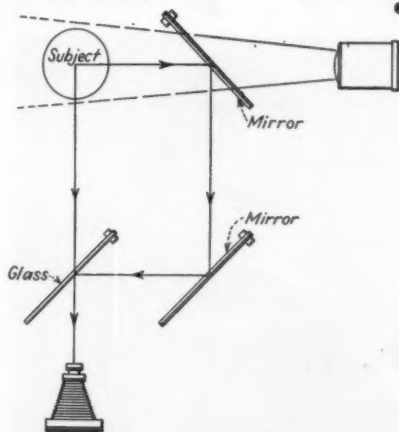
While any one image subject will reflect as many images as there are glasses, it is understood that each glass will reflect its own image independently of the other glasses. However, because each glass will absorb some of the light passing through it, the brightness of the image in the first glass, that is, the one nearest the camera, will be greater than that of the image in the second glass, and the image in the third will be weaker than that in the second, and so on. This factor may serve in some cases to determine the number of glasses to be used. In this connection, it is perhaps needless to point out the neces-

sity of clean glasses in order to achieve the maximum of clarity of the several images, particularly those in the glasses behind the first one.

The reader will recall that the angle of reflection equals the angle of incidence. The one-shot photomontage, as it relates to the light reflected from the image subject, is dependent on this principle, as will be seen from Fig. 3. As each image strikes a glass, the image is deflected toward the camera lens at the same angle as the incident reflection. Thus, it will be seen that with a number of glasses spread fanwise the camera lens will receive a number of image reflections shooting toward the camera at varying angles.

A variation of this method is the use of a single glass and one or two mirrors. The most appropriate use

Background



● Arrangement used for photograph above. The spotlight is above the mirror. Fig. 6.

of this method is in the making of unusual portraits, and in this field it is possible to achieve startling and original results. For obtaining a portrait of a subject plus a three-quarter view of the same subject, one glass and one mirror are employed, as illustrated in Fig. 5.

A full-face portrait plus a profile is



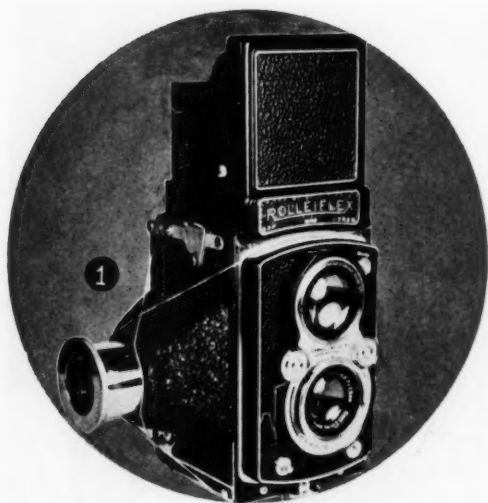
● A montage portrait study obtained by combining a front and profile view in one photograph. Note that the subject was lighted with the right side of his face in shadow and this shadow area utilized for the profile view. Fig. 7.

achieved by using a single glass and two mirrors, as shown in Fig. 6.

Spotlighting can be employed so as to afford complete control of the illumination and facilitate the placement of the image. For example, it may be found desirable to light only three-fourths of the subject and to place the image in the shadow portion. This may easily be done by manipulating the lighting accordingly.

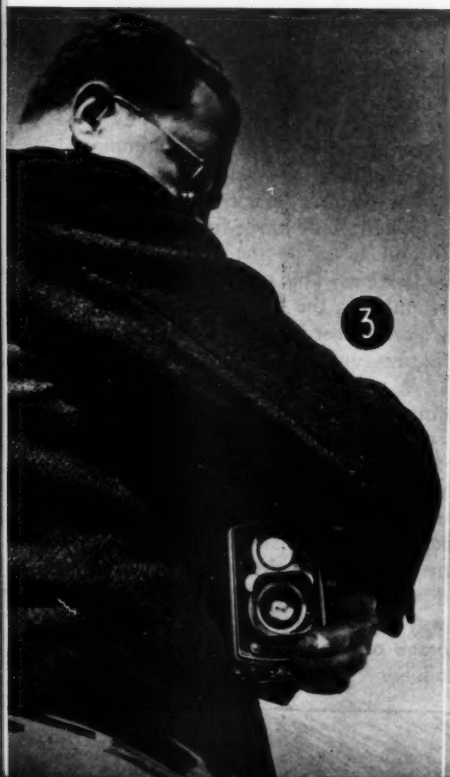
The glass-mirror idea has wide possibilities, for showing two aspects of one subject.

An interesting variation of the method discussed here is the use of large prints both as subjects and image subjects. As with real objects, one or more glasses may be used and as many prints as may prove practicable for any particular setup. In this manner, results similar to those obtained with photomontage in the ordinary way may be achieved, with the added advantage of the one-shot photomontage method.



By KURT SEVERIN
Illustrated by the Author

Tricks for





the Candid



NEWSMEN and war photographers use the devices illustrated here to make otherwise unobtainable pictures, and to secure candid or unposed expressions. They do not photograph unwilling subjects, unless it is for the public interest.

1. The dummy lens. Fastened with a rubber band to any camera, it distracts attention from the real lens. The bigger the "dummy" the better. In this case it is a 35 mm. viewer.

2. The disguise. A cloth or paper bag may be used in connection with the other devices shown.

3. Underarm shooting. Focusing is accomplished with thumb and index finger, the third finger supporting the bottom of the camera. The fourth finger operates the plunger-release shutter.

4. One-hand underarm. Operation same as No.

3. With the standard Rolleiflex, the little finger releases the shutter. The same applies to the Rolleicord, except that the camera is held in the left hand to allow access to the focusing knob.

5. Shooting under the legs.

6. Shooting from cover. Used by war photographers and newsmen filming fights, strikes, etc. Camera is held by a strap tied around the hand twice. Thumb and middle finger focus while the index finger releases the shutter. Entire operation is done with the left hand.

7. Same as No. 6, but camera supported on palm of the hand.

8. Periscope. Used for shooting over the heads of crowds and in trenches or when shooting from under cover. This position enables taking of "wide angle" pictures in a small room, the camera being held in the farthest corner near the ceiling.

Exposure at a glance

Incorrect exposure causes the loss of more shots than any other single cause. The system below is easily understood, requires no complicated calculating, and is accurate as well as rapid.

By HENRY CLAY GIPSON

Illustrated by the Author

WHILE cameramen stand by calculating and contemplating, many an excellent action or candid composition vanishes into the limbo of past history.

The system outlined here is a "mental" exposure system. Once the basic exposure for any film and camera has been determined, allowances for various conditions may be made one the spot as they arise. As it is not necessary to use pencil, paper or adding machines, correct ex-

posure is always at the tip of the cameraman's fingers and no time or pictures are lost.

This does not supplant the use of exposure calculators or exposure meters, but may be used as a check on them. To familiarize himself with the exposure problem, any cameraman does well to leave the camera at home once in a while and concentrate on determining the exposure he would use for the scenes, por-



● Sun shining unobscured. BASIC EXPOSURE, $f/11$ at $1/50$ th second. Fig. 1a.

● Cloudy, but cast shadows visible. Increase basic exposure one stop, or to $f/8$ at $1/50$ th. Fig. 1b.

● Cloudy, no shadows cast. Increase basic exposure two stops, or to $f/5.6$ at $1/50$ th. Fig. 1c.

traits, and other picture opportunities that appear in an ordinary day's movements.

For outdoor, sunlit scenes, correct exposure is easily determined.

- (1) Determine basic exposure.
- (2) Allow for amount of sunlight, as shown in Fig. 1.
- (3) Allow for type of subject, as shown in Fig. 2.

That's all there is to it. Now for the first point. Basic exposure depends mostly on what film is used. Also important is the developer, whether a normal action developer is used, or an ultra-fine grain developer which may require twice normal exposure.

A basic exposure of $f/11$ at $1/50$ th second may be used if a normal-action developer is to be used and a film of the medium fast class such as Agfa Fine Grain Superpan, Agfa Super Plenachrome, Dupont Superior, Eastman S. S. Pan, Eastman Super-X, Gevaert Panchromosa, Perutz Peromnia, Perutz Persenso, Perutz Perpantic, etc.

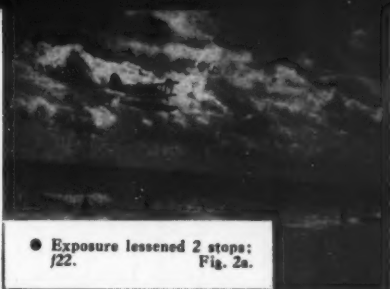
A basic exposure of $f/9$ at $1/50$ th second may be used with films such as Agfa Finopan, Agfa Plenachrome, Agfa Fine Grain Plenachrome, Eastman Panatomic, Eastman Verichrome, Gevaert Panchromosa Micrograin (35 mm.), Gevaert Express Superchrome, Perutz Pergrano, etc.

The above recommendations are for the fall and spring of the year. Exposure may be doubled in winter and halved in the summer months.

Each worker can accurately determine basic exposure for his use by making test exposures and keeping a record of his shots. Then it is a simple matter to make allowances mentally for amount of sunlight (Fig. 1) and type of subject (Fig. 2). Variations for these two conditions should be made at the rate of 100 per cent, or a full stop at a time.

A given exposure is *increased* 100 percent by either (1) opening the lens a full stop wider, or (2) by halving the speed of the shutter, from $1/50$ th second, for example, to $1/25$ th second. Likewise, a given exposure is *decreased* 100 percent by (1) closing the lens a full stop smaller, or (2) by doubling the speed of the shutter.

By looking at a camera when unloaded and



● Exposure lessened 2 stops;
 $f/22$. Fig. 2a.



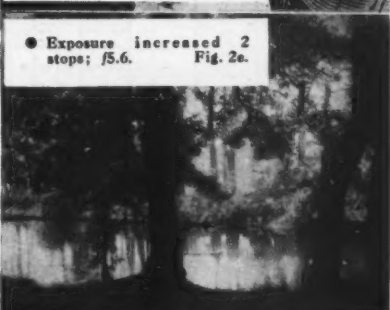
● Exposure lessened 1 stop;
 $f/16$. Fig. 2b.



● BASIC EXPOSURE; $f/11$.
Fig. 2c.



● Exposure increased 1 stop;
 $f/8$. Fig. 2d.



● Exposure increased 2 stops; $f/5.6$. Fig. 2e.

RELATIVE SHUTTER SPEEDS AND LENS OPENINGS

1/1000	1/800	1/500	1/400	1/250	1/200	1/120	1/100	1/60	1/50	1/30	1/25	1/15	1/10	1/8	1/6	1/4	1/3	1/2	2/3	1
f 5.6	f 6.3	f 8	f 9	f 11	f 12.5	f 16	f 18	f 22	f 25	f 32	f 36									
f 4.5	f 5.6	f 6.3	f 8	f 9	f 11	f 12.5	f 16	f 18	f 22	f 25	f 32	f 36								
f 4	f 4.5	f 5.6	f 6.3	f 8	f 9	f 11	f 12.5	f 16	f 18	f 22	f 25	f 32	f 36							
f 3.2	f 4	f 4.5	f 5.6	f 6.3	f 8	f 9	f 11	f 12.5	f 16	f 18	f 22	f 25	f 32	f 36						
f 2.8	f 3.2	f 4	f 4.5	f 5.6	f 6.3	f 8	f 9	f 11	f 12.5	f 16	f 18	f 22	f 25	f 32	f 36					
f 2.2	f 2.8	f 3.2	f 4	f 4.5	f 5.6	f 6.3	f 8	f 9	f 11	f 12.5	f 16	f 18	f 22	f 25	f 32	f 36				
f 1.9	f 2.2	f 2.8	f 3.2	f 4	f 4.5	f 5.6	f 6.3	f 8	f 9	f 11	f 12.5	f 16	f 18	f 22	f 25	f 32	f 36			
	f 1.9	f 2.2	f 2.8	f 3.2	f 4	f 4.5	f 5.6	f 6.3	f 8	f 9	f 11	f 12.5	f 16	f 18	f 22	f 25	f 32	f 36		
		f 1.9	f 2.2	f 2.8	f 3.2	f 4	f 4.5	f 5.6	f 6.3	f 8	f 9	f 11	f 12.5	f 16	f 18	f 22	f 25	f 32	f 36	
			f 1.9	f 2.2	f 2.8	f 3.2	f 4	f 4.5	f 5.6	f 6.3	f 8	f 9	f 11	f 12.5	f 16	f 18	f 22	f 25	f 32	f 36
				f 1.9	f 2.2	f 2.8	f 3.2	f 4	f 4.5	f 5.6	f 6.3	f 8	f 9	f 11	f 12.5	f 16	f 18	f 22	f 25	f 32
					f 1.9	f 2.2	f 2.8	f 3.2	f 4	f 4.5	f 5.6	f 6.3	f 8	f 9	f 11	f 12.5	f 16	f 18	f 22	f 25
						f 1.9	f 2.2	f 2.8	f 3.2	f 4	f 4.5	f 5.6	f 6.3	f 8	f 9	f 11	f 12.5	f 16	f 18	f 22
							f 1.9	f 2.2	f 2.8	f 3.2	f 4	f 4.5	f 5.6	f 6.3	f 8	f 9	f 11	f 12.5	f 16	f 18
								f 1.9	f 2.2	f 2.8	f 3.2	f 4	f 4.5	f 5.6	f 6.3	f 8	f 9	f 11	f 12.5	f 16
									f 1.9	f 2.2	f 2.8	f 3.2	f 4	f 4.5	f 5.6	f 6.3	f 8	f 9	f 11	f 12.5
										f 1.9	f 2.2	f 2.8	f 3.2	f 4	f 4.5	f 5.6	f 6.3	f 8	f 9	f 11
											f 1.9	f 2.2	f 2.8	f 3.2	f 4	f 4.5	f 5.6	f 6.3	f 8	f 9

● Shutter speeds, each representing 1/2 stop, are given in the top horizontal column. Below are the corresponding lens openings. In the second column, for example, "f 16" means that the lens opening is 16 times the second number a full stop. By consulting this table in connection with the markings on any camera, it can be determined which calibrations represent full stops. Then when it is desired to change exposure one or more stops, it is necessary only to move either shutter speed or lens opening to the corresponding number of markings on the camera.

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with the shutter open, it can be seen that the larger the "f" number, the smaller the opening. Thus $f/11$ is a smaller opening than $f/8$. It has exactly half the area, and therefore $f/11$ allows half the exposure. In common parlance, $f/11$ is one stop smaller than $f/8$; also, $f/16$ is two stops less than $f/8$, and allows one fourth the exposure. In the reverse, $f/8$ allows four times the exposure of $f/16$.

Fig. 2c illustrates the type of subject which requires the average or basic exposure. Included are street scenes, buildings of medium color, landscapes with figures or animals and other subjects which are not too close to the camera or do not contain large areas in shadow.

When there is a light foreground (Fig. 2b), exposure time is halved. Included in this type of subject are open fields, light-colored buildings, sport events and medium closeups on snow or beach. Assuming the shutter speed to remain the same, and correct exposure for Fig. 2c to be $f/11$, Fig. 2b would be correctly exposed at $f/16$.

Fig. 2a would be exposed at $f/22$ under the same conditions, or $1/4$ th basic exposure. The lens would be closed down two stops. This is for very bright open, light-colored subjects, such as seascapes without foregrounds, clouds, distant mountains, snow and beach scenes.

Exposure is doubled, from the basic $f/11$ setting, to $f/8$ for Fig. 2d. This group includes subjects with heavy foregrounds, portraits, groups, dark colored buildings, dark foliage or other dark-colored subjects.

Exposure is quadrupled, or opened two stops from the basic setting, for Fig. 2e. This type of subject includes scenes under trees, or under open shade where there is adequate diffused light.

Shutters also are usually calibrated in full stops. The most common shutter speeds for outdoor snapshots are $1/25$ th second, $1/50$ th, $1/100$ th, $1/200$ th, etc. Thus a $1/25$ th second shutter allows exactly twice the amount of light to enter the camera as the $1/50$ th. The $1/100$ th

allows exactly half the exposure time as the $1/50$ th.

In Fig. 3, each column represents a $1/2$ -stop change in exposure. The table may be consulted to determine which of the shutter and "f" calibrations on a camera represent full stops.

Shutter speeds appear in the top horizontal column and lens openings below. Each column, horizontal or vertical, represents $1/2$ stop. To double or halve exposure, move two columns.

Example: What exposure is twice that of $f/11$ at $1/50$ th second? Solution: Find $1/50$ th in the top column and then move, vertically, down to $f/11$. To double this f value or increase exposure by one full stop, move down to the second number, which is $f/8$. Therefore, $f/8$ is double $f/11$.

The same result may be accomplished by varying shutter speed. Note in the second column from $1/50$ th, the figure $1/25$ th. Therefore, exposure may be doubled by changing the exposure from $f/11$ at $1/50$ th second to $f/11$ at $1/25$ th.

The table also may be used to determine relative shutter speeds. In the top columns, for example, $1/1000$ th second at $f/5.6$; or $1/800$ th at $f/6.3$; or $1/500$ th at $f/8$; etc., each allows the same exposure. The shutter speed column may be read opposite any of the horizontal "f" columns in this way.

When a picture "doesn't come out," the fault may be any one of the dozens of elements involved in making a good photograph. But ten to one it's incorrect exposure.

This also holds when the result is one of those "almost" pictures. Subject matter and composition then may be satisfactory, but if the negative is under or overexposed to any great degree, no amount of doctoring will yield a perfect print.

There is no excuse for wasted negatives and subjects lost forever due to incorrect exposure. For outdoor shots, even if a meter is available, the cameraman should be able to judge exposure as a check on a possibly careless or incorrect reading.

CONTROLLED ENLARGING

Can a mediocre negative produce a first-rate enlargement? The answer is, "Yes." Here is a complete, step-by-step description of the methods employed by photographers to get the most out of every negative.

By JACK POWELL

Photographs by the Author

TO many a camera-user, the relation between what he sees and what his camera records is an eternal mystery. Every day, breathtaking landscapes are carefully selected, artfully composed in the finder and meticulously exposed and developed. Then a print is made and the photographer wants to throw his camera away; the landscape—or portrait or other subject—is very ordinary. It is a good snapshot, but no more.

This is an everyday occurrence for experienced as well as relatively inexperienced picture-takers. Why is a final print so often disappointing, when the

original subject appeared to contain all the elements of an eye-catching, attention compelling composition?

The answer is two-fold: certain details have been over-

looked, (1) in taking the picture, (2) in making the print.

As the factors involved in the first problem are attacked in various articles in this and other issues of MINICAM, this presentation will limit itself to print-making.

Assume that a picture is taken and a straight print made. The photographer tries cropping and framing in various ways. He may turn over the negative in the enlarger to reverse the composition. Nevertheless, the straight print fails to present all details in the tones desired.

The next step is local control. Dodging of various areas is resorted to, to darken or lighten certain parts of the print. But this is not enough. Scientific print control is required. Print control may be exercised (1) while exposing the print under the enlarger, and (2) while developing the print. Either or both processes may be utilized by anyone capable of making an ordinary enlargement.

In local exposure the enlarger's beam of light becomes a veritable paint brush. In local development the photographer actually uses a brush—or a piece of cotton or the tip of his finger—to hasten or retard (as he desires) the action of the paper developer.

First, for local exposure.

Only a few simple and inexpensive accessories are required. They are: about



● The print before "fashioning." Compare with the next page. See also Fig. 14. Fig. 1.

six 11"x14" cardboards, preferably white, with one hole cut in each. These holes should be $\frac{1}{2}$ ", $1\frac{1}{2}$ ", 2", 3", 4", and 5" in diameter. The four small openings

each is centered $4\frac{1}{2}$ " from one edge of its card. The centers for the two large openings are $5\frac{1}{2}$ " from one side. This provides a battery of control or vignetting

- With some compositions, especially those in high key, it is desired to darken the background margins to help centralize the picture interest and prevent the eye from traveling out of the frame. In landscapes, it often is desired to darken the sky. This is accomplished by "flashing" or fogging the margins as described on page 38.

Fig. 2.

LE MIROIR

By JACK POWELL



boards (Fig. 4), the use of which will be detailed later.

Also required are three circles made of light weight, black cardboard, Fig. 3. Each "dodger" is fastened to one end of a twelve inch wire. Galvanized iron coat-hanger wire is good. The circles are used to hold back dark areas of a print when desiring to lighten tones or preserve detail.

In a portrait, the greatest point of interest should be in the head and not in a white collar or hat. Rule 1 always is: *The greatest point of contrast must have the greatest amount of interest.* When it is desired to draw attention to any given point or area, the negative or print is controlled to bring the whitest area into contact with the darkest.

Starting with a straight print from a normal negative, Fig. 6, numerous opportunities for print control are revealed.

In the head-dress, for example, the line from the peak of the cap leading down to the left is broken up by an unpleasant protuberance near the top. The peak itself does not have much in the way of pleasing contour.

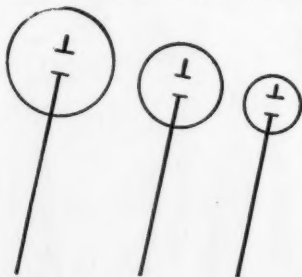
The hair and face show an artificial, metallic glitter; the eyes look rather hard due to the black line of the lower lid. The tonal value of the lips is too low; instead of being solid black they should suggest a more natural flesh tone. Make-up was used on this model before being photographed, but instead of using a panchromatic emulsion (a negative which is sensitive to red and so photographs red in a light tone), an orthochromatic negative was used with the result that all the reds were photographed either black or too dark, since orthochro-

matic film is practically blind to red. The model had a number of blemishes along the throat which were covered over with panchromatic make-up and which, under ordinary circumstances, would have eliminated the defects. Once again the color blind film made these areas appear as dark patches.

In the background appear several indefinite shadows which do not have any connection with the model. Background material, unless placed there for a very specific purpose, should be of the simplest kind. Accessories or shadows should be employed only to help tell the picture story; anything that detracts from the main interest should be eliminated. The sole possibility of this print seems to lie in making a vignette head study.

The negative is taken out of the enlarger and carefully brushed to remove any dust that may have formed on the surface. It is replaced and an image projected on a sheet of smooth white paper. Care is observed as to size and composition. The next step is to make a test to ascertain the correct printing time. Removing the dummy sheet from the printing easel, an eight by ten sheet of Defender Velour Black "T" paper of normal contrast is substituted, and the red filter on the enlarger lens dropped into position.

Using the control board with the two-inch opening, an image of the head is spotted onto the sensitized paper. The opening of the control board is held close enough to the lens to allow a full image of the head, without cutting any of the hair, to appear on the easel. The throat and shoulder lines are also included, thus creating more interest in the picture than



● Dodgers used to hold back areas in a print. They are circles of cardboard $\frac{1}{2}$ ", $\frac{3}{4}$ ", and 1", respectively, stuck on the ends of wires. (Left.) Fig. 3.

● Control boards, large white or black cardboards with openings, spaced as described in the article. Fig. 4.



if the head were abruptly cut off.

The test strip is exposed for 5, 10, 15 and 20 seconds. Then half of the sheet is covered and the rest exposed for an additional $2\frac{1}{2}$ seconds. The result is 8 test segments on one strip, ranging from 5 to $22\frac{1}{2}$ seconds.

The test sheet showed a required printing time of twenty seconds. Using this for a guide, a general exposure is made by rotating the control board, at the same time moving it back and forth. In order to avoid a sharp, definite demarcation, the board must be



● Test strips are made first to determine correct exposure for the various areas of a print.
Fig. 5.

kept in motion during the entire process of printing. At the expiration of twenty seconds the enlarger light is switched off. The exposed print is removed from the easel and developed for three minutes, without any other manipulations, in the straight developer. This vignetted print is to be used as a guide for the final controlling of the print.

Figure 10 shows the position of the control board when in operation. The nearer it is held to the lens, the more of the image that will be transmitted to the printing paper. By using a



● Enlarging control is started with a straight print. In the above, the hair and face show an artificial metallic glitter, the eyes look hard due to the black line of the lower lid, and the lips are too black. These and other weaknesses will be corrected in the final print.
Fig. 6.

larger or smaller opening in the control board greater or lesser areas will be covered. By this method it is possible to project a tiny shaft of light on any portion of the photograph and so print as dense or as light an image as is desired.

Figure 7 is the result of the above straight vignette print without additional control. The picture shows some improvements over the original print (Figure 6) but is still far from being satisfactory. The skin still retains the oily appearance, the hard line of the lower lashes and the solid black of the lips have been softened to some degree but not enough. The vignetting has improved the lower portion of the portrait a great deal: the arms, not particularly pleasing, have been eliminated entirely, while the collar and throat present a more harmonious appearance. The cap still retains its awkward aspect.

Having tabulated the corrections required, it is decided to use an etching screen to break up the deep shadows somewhat and produce an agreeable textural effect. Accordingly, the printing easel is removed and in its place an eight by ten inch printing frame is substituted. The glass of the printing frame is care-

fully cleaned with Bon Ami, polished with a soft cloth and brushed with a camel's hair brush. An etching screen (of my own manufacture, known as the Jack Powell Freeline Etching Screen,) is laid glossy side down on the glass; next, a sheet of Defender Velour Black paper is laid down, emulsion in contact with the face of the etching screen. The back of the printing frame is then clamped down and the frame placed into proper position for printing.

The type of etching screen used for this particular assignment does not require any increase of exposure, so that the printing time remains the same, twenty seconds. In most cases, an etching screen is not required, and this step may be omitted.

With the sheet of paper in the easel or printing frame, and the red filter in position, the $\frac{1}{2}$ " control board is spotted onto the right eye. The red filter is now removed, and a stream of white light played onto the position of the right eye, the control board being kept in continuous motion during the period of printing.

The time allowed for control printing of each eye is five seconds and care is

taken not to print too heavily on the lower lash line. At the expiration of five seconds the printing light is blocked by inserting the finger of the left hand into the opening of the control board.

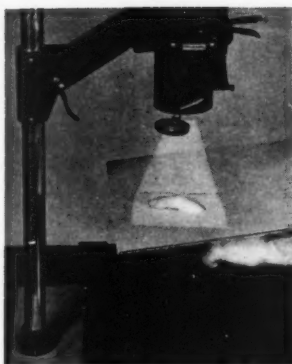
On the board, there will be seen a diffused image of the negative. The board is moved so that the image of the left eye falls on the finger which is blocking the board opening, Fig. 8. Quickly removing the finger, the left eye is given a five-second exposure, following the same procedure as for the right eye. Again the board opening is blocked with a finger and the opening moved to cover the forehead at the hairline. Moving the board close to the paper so that only a thin stream of light passes through the control opening, the finger is removed and the "Widow's Peak" carefully spotted. The board is then moved slowly along the line of the hair, down the right side of the forehead, along the cheek line, under the chin and up to the lobe of the ear. Here the light is again blocked. This same operation is repeated two more times, and each time the control board is moved so as to follow the line described, with a slow, steady movement. The hair line starting from the center of the ear and going up to the center of the forehead is not given any control printing, as the test print showed sufficient density there.

The next step is printing in a little more of the "V" line of the drape. The control board is moved closer to the lens, which permits a greater light area to pass through, and a five-second exposure is given the collar line from cheek to neck. Light spilling over onto the flesh and drape proper will not matter as the actual printing value of the light is in the center, the outer edges being quite weak and having very little printing strength. This applies only when light is projected through an opening as is being done in this control work.

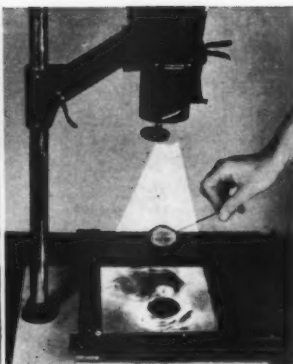
The next point of control is the cap. Using the control board with the one-inch opening, the outline of the cap is drawn in with the exception of the objectionable fold near the peak. Here the printing light is blocked until that area is passed, then



● This shows some improvement over the original print (Fig. 6). Vignetting improved the lower portion of the portrait but the cap still retains an awkward line and the black of the lips is still too deep. Fig. 7.



● For local printing, one finger closes the hole in the control board: it is moved until the image of the eye, or other area to be printed in appears on the hole. Then the finger is removed and the image allowed to fall on the paper below. Fig. 8.



● Using the dodger to hold back an area that otherwise would be too dark. The closer the dodger is to the lens, the larger the shadow cast and the more diffused the edges of this shadow. Fig. 9.



● Using the control board for vignetting. It is kept in continual motion. For an illustration of the vignetting effect, compare Fig. 6 with Fig. 7. Fig. 10.

printing is once again continued. By this method the fold is entirely eliminated and the resultant blank paper will be filled in with a faint image with the next operation.

This finishes the control of "spot" printing, and the next step is the general all-over printing using the full aperture of the vignetting board.

A 15-second exposure is made through the control board. This includes all parts of the picture that will appear in the final result. The essential parts of the picture now have received full printing time (a total of 20 seconds), while the various areas not requiring spot control have had but 15 seconds printing time.

This completes the exposure process. It may be followed for any print, regardless of how much or how little exposure control is required. The success of this step will depend on how accurately the areas are timed and how accurately the areas are "spotted" with the control board.

Before making a controlled print, one or more test strips should be made. Develop a full 3 minutes, fix for several minutes and rinse in clean water. From these test strips, examined under a bright light, decide exactly what exposure is to be allowed to each area. This data may be written directly on a full size test print to act as a guide while the final exposure

is being made.

Each step is independent. Local exposure and local development control both may be used or either one may be used independently.

Now to develop the print we have exposed.

Six trays are arranged as in Fig. 13. For 8 x 10 prints, they will be 8 x 10 trays, but tray No. 6, containing hypo, may be 11 x 14.

Also necessary are a 1" camel's hair brush, a Japanese lettering brush, a wad of absorbent cotton and a tray of ice, if available.

If a portion of the print tends to print too dark, due to lack of silver in the negative, that section may be held back, or retarded in development, by applying a piece of ice to the surface of the print. The low temperature of the ice holds back the development by contracting the gelatine in which the silver bromide is suspended, and preventing the developer from penetrating.

The developer recommended is the following. It is used in tray No. 1. (Fig. 13).

Distilled water.....	32 ounces
Metal	15 grains
Sodium sulphite, dry.....	½ ounce
Hydroquinone	70 grains
Potassium bromide.....	50 grains
Sodium chloride (common table salt) ½ ounce	
Sodium carbonate, dry.....	½ ounce

To be used without dilution at a temperature of 68 to 70 degrees F.

Tray No. 2 contains exactly the same formula except that the carbonate is omitted.

Tray No. 3 is a clean empty tray.

Tray No. 4 contains the carbonate or "accelerator" solution. Mix $\frac{3}{4}$ ounce sodium carbonate in 3 ounces of water.

Trays Nos. 5 and 6 contain the usual acid shortstop (1- $\frac{1}{2}$ ounces 28% acetic acid to 1 quart water), and hypo solutions, respectively.

The exposed print is first immersed in the normal developer, tray No. 1, as for usual development. As soon as the image becomes visible the print is taken out, rinsed in water, and placed in tray No. 2, where development will be stopped to such a degree that local control work can be carried out.

Lay the print on the bottom of the empty tray, No. 3. Dip the 1-inch brush in the carbonate solution, tray No. 4, and quickly brush the entire surface with this solution.

Immediately immerse print in tray No. 2 (developer minus carbonate) for 10 seconds, then return to the empty tray, No. 3.

Now use a small brush to give accents and develop the highlights wherever required. It is possible to bring out or hold back any points desired. Only those parts of the print to which the carbonate solu-

tion is applied will develop. The operation of brushing should be repeated until the print is sufficiently developed, always placing the print in tray No. 2 (developer minus carbonate) after applying the carbonate, as it requires the combination of both No. 4 and No. 2 to carry on the development.

When the desired density of the picture image has been obtained the print is placed again in the straight developer, tray No. 1, and, after 10 seconds is transferred to the acetic acid shortstop bath, tray No. 5.

It is also possible to use prepared developers. The author uses Defender 55-D and Eastman D-72. It is always a good idea to use the developer recommended by the manufacturer for each paper.

If a prepared developer is used in tray No. 1, then use acid shortstop in tray No. 2: $\frac{1}{2}$ ounce acetic acid, 28 per cent, to 32 ounces of water. Cold water may be used in tray No. 2, but there is the danger of the print continuing development as result of developer carried over. For this reason the acid is added to stop all development. Any print that has been through an acid stop bath should be carefully rinsed in clear water to remove all acid before returning to tray No. 1.

Development control is fundamentally the same whether the developer formula given above or prepared developers are used.

Thirty seconds in Tray No. 5 is usually enough to halt all further development, after which time the print is immersed in the acid hypo fixing bath for fifteen minutes. The print should be agitated occasionally to insure thorough fixing. When fixation is completed the print is transferred to the wash water for one hour of washing in running water. Finally, the print is laid on a sheet of glass and sponged off, both face and back, with a damp viscose sponge. It is then laid face downward on a drying rack. The print is not allowed to become bone dry, but is removed from the rack while still retaining a slight degree of flexibility, straight-edged, and placed in a



● The black eye. This is what happens to a print when local printing is not accurately timed. Fig. 11.



● The final print after employing local exposure and local development control.

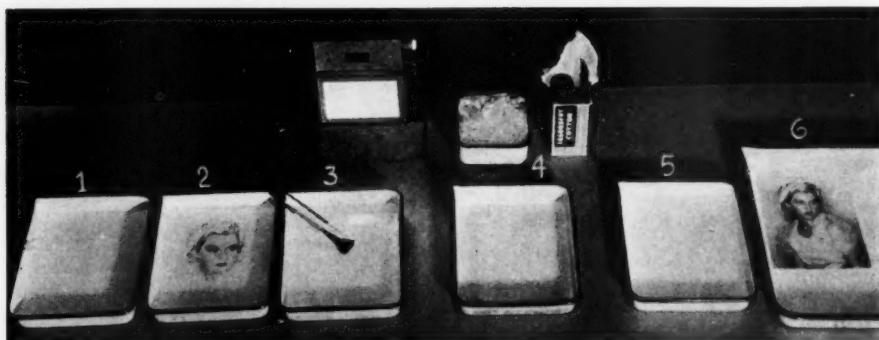
Fig. 12.

press for twenty-four hours, drying under pressure.

When the print has become thoroughly dry it is removed from the press and finished according to the directions in the April issue of *MINICAM*, under the heading "*Retouch and Mount the Print.*" When the print does not require the de-

tailed, dry tone finishing, simple spotting will complete the operation.

On some pictures, especially those of a high key type wherein the background is pure white, the edges of the print may be "fogged in" slightly. This helps considerably in centralizing the picture interest, as it keeps the subject matter within



● For development control, the six trays contain the following: Tray No. 1, developer. No. 2, developer minus carbonate. No. 3, empty tray. No. 4, carbonate solution. No. 5, acid shortstop. No. 6, hypo. In back of the trays is a safelight, a dish of ice and a roll of absorbent cotton. The two brushes seen in tray No. 3 are a Japanese lettering brush and a 1-inch camel's hair brush. Fig. 13.

its frame so to speak, and prevents the eye from traveling outward too quickly. In a landscape, darkening the upper part of the sky by fogging will impart depth and aerial perspective to the scene.

The fogging or "flashing" process is carried out as follows: After the final control work has been done the negative is removed from the carrier and the lens stopped down to its smallest aperture. Place the back of the right hand against the lens and switch on the enlarger light (Fig. 14). By lowering and raising the hand, closing the fist, extending different fingers, it is possible to print in the edges of the paper to any desired density or form. The time required for this



● Negative is removed from the enlarger to carry out the fogging or "flashing" process utilized in Figs. 1 and 2. Fig. 14.

"fogging" process should be previously determined by means of test strips. It usually requires from eight to ten times the exposure used when normally printing with a negative in the carrier.

A comparison of Figures 1 and 2 illustrates the point. Figure 1

is a straight print with a clear white background. The figure seems too sharply outlined, rather as if it were cut out and pasted on a sheet of white paper. The whiteness of the background area is too strong in proportion to the tonal values of the subject, and this makes the background expanse seem so empty that the eye continually wanders to the edges of the picture. On the other hand, Figure 2 is held together as a cohesive unit, the fogged edges of the print lending an harmonious, atmospheric effect to the background, and confining the picture interest within its correct limits.

Ingenuity and imagination should always enter into print making. A study of the work of others will serve as an incentive to produce original and interesting compositions. Salons and the photographic magazines are veritable gold mines for discovering ideas. I do not mean that one should copy the works of others; my suggestion is to make a study of the work of well known photographers and then see if something can be created that will have equal or greater interest. We all possess powers of origination; possibly this is developed more highly in some people than others, but it is not too difficult to develop this latent quality.

In choosing equipment, a condenser type enlarger is preferred to the diffuser type for sharpness and print contrast. Con-

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RENAISSANCE

By JACK POWELL

- A final print after employment of control in exposure, and development.
To furnish the oil-painting surface, a texture screen was used.

MOUNTAINS

*Now lensmen are lured by
the beauties of high altitude
and the call of the timberline.*

By GORDON MAINLAND

Photographs by the Author

ALTHOUGH the largest thing in nature is a mountain, a minicam negative is one of the smallest. No wonder that a majestic spectacle may look insignificant when reduced to a few inches square!

Composition—arranging the scene—is perhaps the chief problem in the photography of mountains. The temptation is to get everything in. Even the mildest-mannered lensman, on viewing a mountain, is seldom satisfied with one peak, but must have an entire mountain range, if he

can get it. The result is not a picture, but, at best, a topographic map.

Foreground is important, but a figure placed too close will dwarf, by comparison, the size and grandeur of the greatest spectacle. Therefore, more important than *immediate* foreground for rendering the effect of space, is the middle distance area. A composition portraying mountains should be made up of receding objects. Lead the eye from the foreground through a series of diminishing objects, each further away until the final, distant center of interest is seen.

To furnish a scale for a mountain's dimensions, no single device is better than the use of one or more distant human figures, far enough away to appear properly dwarfed by their surroundings.

Lighting effects are not apparent in a full sized scene. But reduced to picture size, a landscape in monotone appears as flat as a pancake. Only when the sun is at the side or facing toward the camera are those shadows cast

● Long's Peak from a distance of 25 miles. It is 7,000 feet above the valley at its foot. Without the tiny objects in the valley, the effect of the framing foreground tree would have been to dwarf the mountain and make it look like a sand hill. Exposure $f/4.5$ at $1/200$ th second, Pan film, K2 filter.





● A mountain-cape of the panorama variety, an interesting design is furnished by the reflection in the lake of the white peaks and the middle-distance trees.

that furnish depth, distance and form.

Haze and clouds are considered the worst enemies of picture-taking at high altitudes. But the evil is not unmixed. An ultra-violet filter will cut through haze, as will the usual cloud effect filter—whether it be yellow, yellow-green or red.

Another expedient is the use of a relatively high shutter speed, about 1/200th second. More than can be seen with the eye often will be recorded by the film. While the film will see through haze to some extent, but not through clouds, it should not be expected that the haze-cutting effect will be great, unless infra-red film is used. No 35mm. camera user should overlook the dramatic possibilities of infra-red film for mountain scenes.

Early morning and later afternoon hours are the most hazy. Clouds are desirable for background, and haze, when properly placed so as not to obstruct a composition, will go far to give the effect of great space so desirable in pictures of distant subjects.

The shadows of clouds cast on hill sides may furnish unusual and interesting designs. Clouds move rapidly, and the light-

ing is always changing so it is necessary to move fast. Determine exposure in advance so the camera will be ready to fire at an instant's notice.

Exposure of mountain scenes is best judged with an exposure meter. Because of the altitude and because the subject usually is at a great distance, less exposure time will be required than for more familiar scenes, probably two full stops less.

Use of a fairly large lens opening is recommended for the rendering of an impression of distance. When stopped down to $f/8$ or smaller, distance is "killed" and all objects appear in the print to be at the same distance. Unless it is necessary to bring nearby objects into focus, it is a good idea to use the lens wide open and adjust for exposure by varying the shutter speed.

While many mountain photographs may be taken from a highway, others require early rising and long hikes. That is when the portability and light weight of the modern minicam comes into its own. The film packs alone for a camera as small as 9×12 cm. might well weigh more than a complete 35 mm. camera, film and accessories on a mountain photography jaunt.

PHOTOGRAPHING THE NEWS STORY OF THE MONTH

The inside story of newsmen and how they get the pictures seen in the papers. Told by the night telephoto editor of Times Wide World Photos.

The Hines Trial

By A. J. EZICKSON

THE trial of James J. Hines, New York's colorful district Tammany leader, has been termed the legal "battle of the century." Day after day, since the curtain was first drawn on August 15, the parade of witnesses in the august chambers of the Supreme Court Building in New York City, has disclosed the sinister workings of a gangster-ruled

domain in the heart of the great metropolis. The revelations have been sensational. It proved to be swell headline news the world over. No fiction writer could have ever imagined more lurid details.

It was a hard blow to the picture editors of New York's newspapers and syndicates when District Attorney Thomas Dewey, prosecuting the case, decreed that no photographers would be allowed inside to take pictures of the trial. The order has been strictly adhered to. Not a photograph has appeared illustrating the courtroom's proceedings, and no editor will issue instructions violating the rule. Nevertheless, pictures covering the story had to be secured.

With the mercury soaring high in the 90's (August 15 was New York City's hottest day of the year), the news cameramen streamed down to the courthouse, ready for the start of the big show. The trial's opening was set for 10 a. m. Scattered from the topmost step, leading into the lobby of the building, down to the street curb, the cameramen swarmed, snapping the bigwigs: Dewey and his assistants, Hines, the defendant, Lloyd Paul Stryker, chief of defense counsel, and his aides. There were at least three-dozen still cameramen on the scene, not counting a large number of movie men who operated with hand cameras. Every New York newspaper was represented with at



● Children are favored by James J. Hines, Tammany district leader, and they still stick close to him as he leaves the Supreme Court building in New York at the noon recess of court August 30—one of the human interest pictures taken during his trial. Taken by Kenneth Lucas, Wide World photographer, with a Graphic, f/8, 1/200th second.

least two or more men and the picture tabloids, the *Mirror* and the *News*, each had at least six. The syndicates, *Wide World*, *International*, *Associated Press* and *Acme*, had two or more cameramen representing them.

As soon as the cars would draw up at the curb, the photographers would be on the qui vive. A batch would pull their speed flashes the minute the door opened. Then cries of "Hold it, please!", as Dewey or Hines or the lawyers would be recognized. More flashes. Then a new barrage as they climbed the steps. Motorcycle boys rushed the undeveloped plates back to their respective offices to make editions for the papers, or make services or be transmitted by wire the country over for the syndicates. Foley Square was a lively battleground for the cameramen that blistering morning of the 15th.

But the worries of the still men had just started. Police barred the way to the lobby. Out on the scorching steps and on the pavement, with but a brief rest in the shadows of the huge pillars, they lugged their 4x5 Speed Graphics and cases, loaded down with bulbs and holders, ever on the alert, and daring not miss a shot. The morning session was over at noon. Again the rush to snap the principals. Lunch for all but the photographers. They dare not leave their posts. One o'clock found the return of Dewey, Hines and the rest. More pictures. But the vigil was not ended. The cameramen knew there were to be witnesses. And no one knew through which door (there were four of them, one on each side of the building), the witnesses were to be escorted in by detectives. Besides, who were the witnesses? No one knew. It was a case of "shooting" a prospect, and learning afterward his or her identification.

The plan that worked was this: several



● The news cameramen very much on the job. Joseph Lyons, *New York Sun* photographer, ducks after making his shot to allow the others in the center foreground to make theirs of District Attorney Thomas Dewey (wearing hat) as he arrived at the Supreme Court Building for the Hines trial. Ahead of him is his wife, who is being snapped by the photographers at extreme left.

reporters who had access to the courtroom would be enlisted to give the cameramen their aid. They would be told that the photographers had made a shot of such and such a man, say, of medium height, wearing brown suit and polka dot tie. A short time later, if the man was placed on the witness stand, the reporter would return and give the boys his name. The same plan worked with the witnesses leaving the stand, so if the cameramen missed them coming in, they would get them coming out. The reporters would tell the cameramen: "Watch for a short, stout woman, wearing a blue flowered dress and a small black hat. She's 'Kitty Smith', a witness." As soon as she had made her appearance at the door on leaving, dozen of bulbs would explode. She would then be persuaded to pose. If she volunteered or not, that was her affair. But a picture was already taken. The boys were sure of that.

An amusing incident broke the tedium of the assignment on the second day of the trial. The photographers were in front of the building, cursing the heat

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Photo-Pattern Mirror

Before printing, see exactly
how patterns will appear

By S. J. RESSETAR
Illustrated by the Author

PATTERNS with photographs are easily made, but most of the work involves arranging, cropping and composing the design before making up the prints. This can be simplified and speeded up by using a pair of mirrors, a device well known to artists and interior decorators.

The mirrors may be of any convenient size and shape. They are hinged together with a piece of tape and employed as shown in the photograph and sketch on this page.

This method eliminates the necessity of making trial sketches, unnecessary prints, cropping haphazardly, or wasting effort and paper because a pattern refuses to turn out well by the trial and error method.

Select a likely print. Open the mirrors to form a right angle and place along the edges of the print. The single print, by reflection, becomes four prints. There is the pattern!

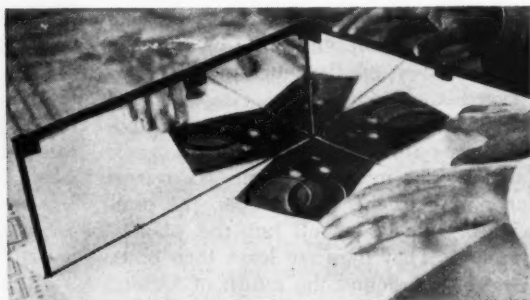
Move the mirrors about, or the print. Marvelous possibilities

will reveal themselves. It is very intriguing and an interesting form of diversion. Tried on the most-unpattern-like prints, strange and fascinating shapes emerge.

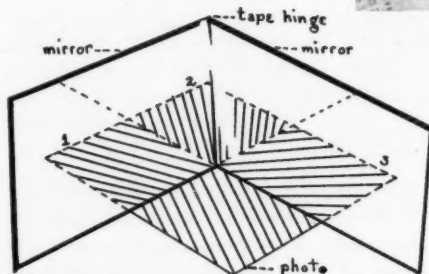
Once it is decided what part of the print to use, run a pencil along the edges of the mirrors. That indicates the crop lines, without fuss or muss, and without actually cutting up the print. Then test the other two sides of the print.

The device reveals all the pattern possibilities of any print in a few minutes.

The next step is to make four prints using that part of the negative indicated by the pencil lines on the experimental print. Two prints are made with the negative reversed in the enlarger, that is, with the emulsion side up. Then the two nor-



● The print is moved around before the mirrors until a pleasing pattern is created.



● Sketch showing how the reflections, 1, 2 and 3 combine with the original photo to create a 4 unit pattern.

mal and two reversed prints are pasted on a card to duplicate what was seen in the mirrors.

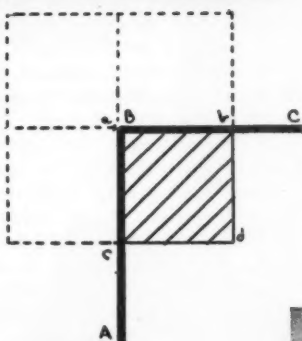
So far so good. But only four prints have been accounted for. What about a pattern comprising of 16, 32 or more prints? If four sides form a harmonious unit, then all one need do is to repeat that unit.

If there is difficulty in visualizing a pattern of more than four prints, make a four print unit and subject it to the mirror test.

The purpose of the mirrors is not to eliminate any of the photograph work, but to minimize the job of designing a pattern



● The above photo was tested with the mirror device and then 16 prints made for the pattern below.



- The heavy black lines (above) indicate the mirrors, and a-b-c-d the print. Dotted lines show the repeat images seen in the mirrors. After the images of side a-c and b-c prove satisfactory, sides b-d and d-c are placed against the mirrors to determine the appearance of their repeat. If these sides repeat nicely, the result is a harmonious unit which can be multiplied any number of times.

before beginning to put it into photographic form. Photo patterns are highly practical for murals and other decorative purposes.

When pasted up, the edges of the prints may show as thin white lines. These can be retouched by the application of black India ink.

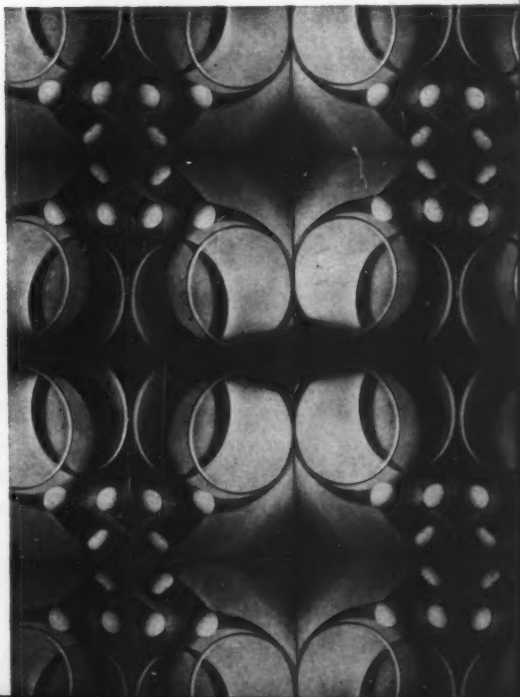
Making the prints was covered in the article "Photo Patterns" in MINICAM for August. It is worth repeat-

ing, however, that the success of a pattern depends on similarity of tone in the prints to be assembled. The negative used must be capable of furnishing a straight print without dodging. Otherwise, the prints will not match perfectly in tone.

In making the test strip, stop down the enlarger lens so that correct exposure time will be about 15 or 20 seconds. A too-short exposure time cannot be gauged with perfect accuracy.

When the negative is turned over to make the reversed prints, the lens first is opened wide for re-focusing, and then carefully moved back to its previous position. Re-focusing, however, is not always necessary. If the enlarger is being operated at a small stop, the negative can be reversed and then printed without refocusing or moving the diaphragm opening.

All of the prints may be developed at one time if a tray of adequate size is available. Fixing also should occur simultaneously to insure that fixation as well as exposure and development of the prints all are perfectly matched.



I Explored America



● Bernd Lohse

By **BERND LOHSE**
Illustrated by the Author

THROUGH A WINDSHIELD

TO TRAVEL—to see strange sights, new scenes, faces, customs, streets, buildings and people—

And to take pictures—these are the twin desires which bring me from my home in Europe to the vast, amazing, contradictory congestion and unbelievable open spaces of the new world.

A thousand times I look and am awed, amused, pleased, surprised or just plain dumfounded. A thousand times I sight my Contax and carefully release the focal plane shutter.

Photographing through the "windscreen," or windshield as you call it, I travel across your country by train and in a bus.

How much greater is the opportunity of you living right "in it" with time to reflect, to wait for correct lighting, to come back for another shot, to retake those which do not come up to expectations?

All that is needed is a fresh viewpoint. Imagine you are me—that you are a stranger, a traveler, a tourist—anything. It will give you a new pair of eyes, photographically.

- I was amazed—to find a creek running atop a skyscraper.
- I was amazed—by the beauty of every view of New York harbor.





● I felt sorry for —
American women who
go to such trouble
to look beautiful.



● I felt sorry for the city
dwellers on their way to
work taking breakfast
on the sidewalk.

● I felt sorry for the
news kid in Walla
Walla who couldn't
get on the bus to
sell us papers.

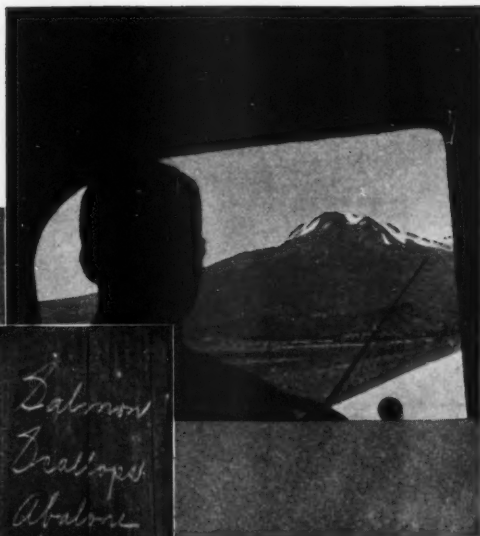




● I sometimes wondered—at the way beautiful American roads are decorated with advertisements.

*I Sometimes
Wondered*

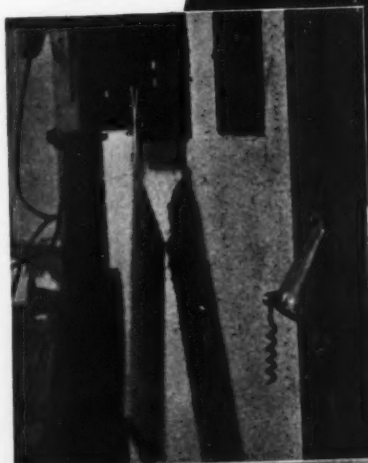
● How many Americans know the breath-taking beauty of their own country, even as Mt. Shasta, California, glimpsed from a bus window?



*Salmon
Crabs
Abalone
Smelt
Smoked Salmon
Long Rod
Rock Rod*

● I sometimes wondered—how they get the fish unionized.

I Liked



• I instantly liked—the forthrightness of the hotel which had a parkinson built into every room.

• I instantly liked—the way western of American men's underwear. I couldn't resist taking a self-portrait in a hotel room.

• I instantly liked—the informal way of American behavior, once one is in the club or smoking compartment.





● I was amused—at this impersonation of Mae West at a children's parade in Venice, Calif.

I was amused



● I was amused by the weird reflections in the shining helmet of an American Legionnaire. In Europe, uniforms are everywhere.



● I was amused—at this sign in a Detroit theatre until I learned it meant genuine babies.

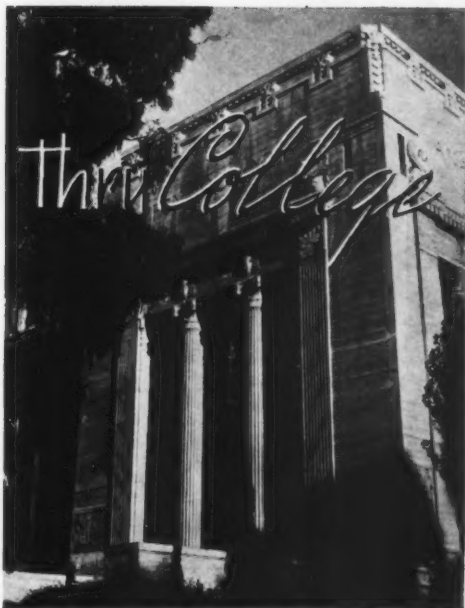


Minicaming

*Take your camera
to school and let it
help pay your way*

By J. SHULMAN

Photographs by the Author



THE alert photographer at college, without sacrificing too much of his time, can earn sufficient returns from his camera to cover a percentage of his expenses. With little overhead expense he can offer photographs at a price low enough to meet the budget of the student who would otherwise not be able to afford to purchase photographs which for later years would preserve graphically and dramatically many cherished experiences. The student photographer finds his best customers among other students and campus clubs, fraternities and other groups.

Now to consider a few possible sources of photographs on the campus. Let us start with the beginning of the college semester in September and see just what we can do with the camera.

During September new students are becoming acquainted with the campus. Here is an opportunity for the production and sale of campus views. Photographs of the most interesting and typical scenes on the campus can be made in various sizes—postcards for mailing home all the way up in size to large mounted prints for hanging in apartments, dormitories, fra-

● Campus buildings offer easy subjects and find a ready market with students, instructors, publications and local merchants for display in store windows. Note the effect of size given by the tiny figure of a man in the lower left. Always seek to get people in photographs of buildings.

ternity or sorority houses and for store window display purposes.

Photographs of fraternity and sorority houses were taken by one enterprising student who then made one 11 x 14 mounted print of each accepted subject and then printed postcards which members were glad to buy. They enjoyed giving the impression that their "house" was important enough to become a pictorial postcard subject.

Pointers to remember when shooting illustrations of a fraternity house are: select the most attractive angle and time of day; arrange composition horizontally so as to fit postcard proportions; shoot from adequate distance to keep perspective; and, above all, have people in the scene. Get two, three or four friends, boys and girls, and have them walk down the street swinging their books. A shutter speed of 1/100th will be adequate to catch the motion. If some of the members of the house



● This photograph of Bowles Hall, the men's dormitory at the University of California sold to many students who desired to hang it in their rooms. Postcards of the same negative also sold well. Taken at $f/16$, $1/10$ th second, light yellow filter, Panatomic film, vest pocket Kodak on a tripod.

are available, so much the better.

During my first week at Berkeley many photographs were taken of the various buildings on the campus of the University of California. Fourteen views were chosen as most representative, enlarged to 8 x 10-inch prints and mounted on 11 x 15-inch matts. These in turn were framed with passe partout binding tape. The result was striking and attractive. I made the photographs for my own collection but they looked so good after the framing that I decided to see if there was a market around the campus. First I went to the campus bookstore and showed the pictures to the manager. The response was positive so I left a few. They started selling almost immediately there so I tried a few more bookstores and gift shops in Berkeley. Within a week seven stores were selling my photographs!

Apparently, beside the usual postcard photographs of the campus, no one had ever attempted to produce photographs worth hanging.

Because the campus pictures met with such favorable response I decided to aim my camera in other directions. The largest clothing establishment in town was contacted. Suggestions were made to the manager wherein photographs of student models wearing the latest in campus clothes were to be taken. A few experimental setups were tried using various campus buildings as backgrounds. They were accepted as satisfactory and soon I was taking photographs regularly, not only for the above mentioned firm, but also for several other establishments. The photographs were used for advertising and store window display.

The procedure in taking the fashion pictures were extremely simple. First a satisfactory background setting was chosen. No lights or props of any form were used. With careful placing of the subject in relation to his setting and the illumination from the sun, photographs of a sharp, clear, and dramatic quality were obtained. The demand for informal portraits among

students would naturally be quite great inasmuch as the boy or girl friend or the fond parents back home in Podunk Hollow are always demanding pictures. The miniature camera carefully used can turn out pictures of a quality comparable with those taken with larger portrait cameras. As I did not have any lighting equipment most of the portraits taken there used daylight only. For a setting, a solid mass of shrubbery or a smooth wall was chosen in most instances, although the ideal background for outdoor portraiture was found to be the sky. With the use of a light yellow filter proper tone was obtained in the sky. All the portraits were taken with the use of a tripod. Some of the negatives were so sharp that it was necessary to diffuse them during projection.

With the closing of the football season and the advent of the Thanksgiving and Christmas holidays, demand for photographic greeting cards and mounted and framed photographs for gifts becomes quite great. Holiday greeting cards are easy to make and sell. The success of the card depends a great deal upon the selection of a simple attractive theme. How to make photographic greeting cards will be described in an early issue of MINICAM. The demand for personal portraits also grows during the holiday seasons.

My equipment consisted of an old Eastman Vest Pocket Special camera with an Eastman anastigmat $f/4.5$ lens in a diaphragm shutter with speeds up to $1/100$ th second. Accessories included a tripod, a yellow filter (K2), a portrait attachment, a diffusion disk, and a Rhaco Viewfinder. The latter is a most valuable gadget. It clamps onto the camera and is especially useful with cameras having no eye-level finders. Eastman Panatomic film was used exclusively.

Development was by tray method in Eastman D76 devel-

oper at 68 degrees Fahrenheit for eight minutes. The resultant negative is one of brilliance and fine grain which will enlarge to 18 x 24-inch prints with an amazing fineness of grain. The sharpness of the prints is without doubt as clear cut and full of definition as one could wish. The sharpness of the negatives may be attributed to: (1) the use of a tripod as often as possible; (2) the use of as small a stop as possible thereby insuring depth of focus and eliminating the possibility of inaccurate distance judging.

I also sold many off-campus photographs. One was a shot of the French Normandy Apartments, Berkeley, California, and the photograph was purchased by an artist residing there who felt that even with his paint brush he could not interpret the design of the structure as well as did the camera.

There are many other possible uses of the camera at college that the photographer will find worth investigating.

● This campus style shot was sold to the local men's store. An atmosphere shot, its success depended on selection of a suitable background. Made with a vest pocket camera, $f/8$, $1/100$ th of a second. The slight blur of the right foot adds a feeling of movement.



How to

WIN PICTURE CONTESTS

*Illustrated by Prize-Winning
prints from two MINICAM contests.*

By B. TAYLOR

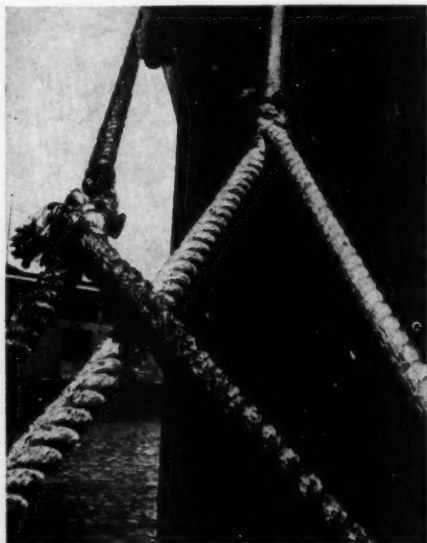
THE ascending demand for pictures and the increasing number of contests have opened up a specialized field to every camera user who would partake of the stimulus, excitement—and perhaps profit—of competitive picture taking.

Photograph contests are held by publications ranging from national magazines to small town newspapers, from international camera manufacturers to local stores. Prizes may be anywhere from \$5.00, or less, to several thousand dollars.

Contestants also vary. There are those who, in certain cases, haven't



● An Argus Picture Contest winner.
By Theodore C. Kuehn. Made
with a Model A, 1/50th second
at f/5.6 by the light from a window.



● "Moorings," by Albert E. Hederman, Jr. Argus Model AF, 1/100th at f/11. Light yellow filter with Agfa Superpan Supreme, developed in D-76. Print made on Brevira. See page 56 for complete list of Argus Contest winners.

a chance, to old timers who sometimes have too much experience.

How is a contest won? By submitting the picture the judges are looking for.

But how can you know what the picture is when the judges perhaps do not know exactly?

Here's how. Step one, we clip the rules. They are to be our map, our navigating chart on our prize-winning voyage. The rules, first, tell the type of contest. Is it open to all, or only amateurs? The greater the entry restrictions, naturally, the less the competition. The size of the prizes also furnishes an indication of the quality of the competition to be expected. Subject matter is the chief consideration in any contest. When rules are specific on the point, study each word.

Now to get to work. We assemble sev-



OCEAN'S TRESSES by WERNER STÖY

WATER CONTEST

\$100, First Prize, won by "Ocean's Tresses," by Werner Stoy, 6302 Crescent Street, Highland Park, Los Angeles, California. See reproduction on previous page.

\$50, Second Prize, won by "Futures for Two," by H. M. Zalmanoff, Syracuse, New York, reproduced on next page.

\$25, Third Prize, won by "Water," by Wm. B. Coleman, 1341 So. First Street, Louisville, Kentucky, see below.

ARGUS CONTEST

Ten prize winners, \$5 each:

LOUIS HOCHMAN
1704 East 15th
Brooklyn, N. Y.

ALBERT E. HEDERMAN, JR.
1134 Post Street
Alameda, Calif.

J. B. BUFFAMOYER
723 Hill Street
Lebanon, Pa.

THEODORE C. KUEHN
5925 Frontenac Street
Philadelphia, Pa.

NORMAN MACPHERSON
4576 Montana Street
Montreal, Canada

JOHN B. HAMILTON
914 Verlinden Avenue
Lansing, Mich.

WILLIAM F. WALKER
69 Nacional Street
Salinas, Calif.

LAWRENCE IMBER
463 Raymer Street
Toledo, Ohio

HUGH H. WILCOX
24 S. E. Melbourne
Minneapolis, Minn.

MARTIN L. GRAEBER
127 East Southern Ave.
Springfield, Ohio

eral magazines and newspaper rotogravure sections. If we have a picture scrapbook, we include it. For seasoning, toss in a few of our own prints.

Now with the contest rules still before us, we go over the pictures or reproductions one by one and decide which would be possible winners, which would not, and why.

Assume that it is a water picture contest we want to work on. The rules say, "Any picture in which water is included." It is a general subject, then, and we are going to be able to select a large number of varying subjects. This allows great scope for individual initiative and imagination.

Some contests are very specific. A contest for, "The best candid picture of President Roosevelt," for example, is so limited that relatively few could enter.

Returning to our water picture contest, we pick up a picture of a beautiful bathing girl next to a palm tree. There is water all right in the background, enough to bring the picture into the general broad classification desired.

Next let's consider this shot of a beautiful high dive. Another excellent action shot shows a swimmer diving into an ocean wave. Then there is an aquarium of a picturesque Japanese gold fish. And a very cute baby having his face washed.

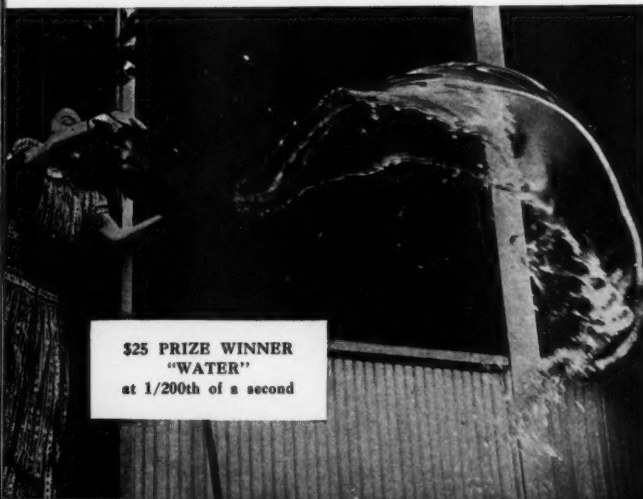
We go over each of these pictures noting that water is included in every case. But are these water pictures in the stricter sense?

Looking at them again, we see that they are not water pictures so much as pictures of beautiful girls, divers, swimmers, and cute babies. The importance of the water being secondary, the pictures would not stand a chance of winning such a contest.

Here, however, is a closeup of an ocean wave, an obvious subject. Its success will depend on how the subject is

\$25 PRIZE WINNER
"WATER"

at 1/200th of a second





"FUTURES FOR TWO"

\$50 PRIZE WINNER

treated. This brings us to the second requirement after subject-matter, namely treatment. What do the contest rules say? "Unusual, dramatic, eye-catching pictures." We not only carefully study each reference in the contest rules but also study the publication itself for clues as to the type of picture treatment desired.

After selecting a subject and deciding on how it should be treated photographically, we go through our negative and print file, selecting any "stock" shots which might serve.

These preliminaries prepare for the real work of shooting the picture we have conceived.

Then with a definite idea of what subjects would receive the best consideration and how they should be treated, the next step is the making of the prints from our stock negatives and the new pictures.

There is no use submitting a picture, no matter how excellent the subject, unless the print is of good quality for reproduction, with clear white highlights

and rich black shadows. Time occupied in re-making prints is well spent. Many a picture is thrown out, although well liked by the judges, merely because it is gray or muddy in tone.

To learn how to make good enlargements, read the articles on the subject in MINICAM. This month, for example, there is "Controlled Enlarging."

Before mailing our submission, we go over the rules again. Prints are made the maximum size allowed. We submit every print that we decide would have a chance after considering it carefully and critically. When in doubt, we ask ourselves, "What would we think of this print if we were the contest judges?"

Win, lose or draw, we consider ourselves well repaid in picture taking experience.

It is easy to take pictures, but following a definite assignment presents altogether new problems, and furnishes the mental discipline which is not always present in artistic training, and yet which is of first-rate importance for success.

Monthly PICTORIAL ANALYSIS

Conducted by

J. GHISLAIN LOOTENS, F. R. P. S.

A GREAT artist in his youth often had acrimonious debates with fellow students as to the relative merits to be derived from studying art as seen through the eyes of the older masters or directly from the original as shown by Nature's handiwork. One day, his opponent in debate pointed out to him that according to this doctrine of being original right from the start, "It seems that the only way to draw well is not to draw at all; and I suppose if you wrote on the art of swimming, you would not permit your scholars to go into the water—until they had learnt."

The above anecdote does not mean we should stop thinking for ourselves. But the best thinkers and doers in all lines of endeavor have been those who have been well grounded in their own profession before they attempted to strike out for themselves. Everyone can learn from someone else. In photography the same condition exists; there isn't a photographer in the world who is actually self-taught; he either studied with someone or had access to good text-books, or both. For the sum of all our progress is due to the collected

efforts of men and women who have gone before us; we, who come later, use their knowledge as a springboard for our own endeavors.

Rather than decay the urge

of studying the work of others, we would recommend the beginner to keep a file of pictures which he sincerely admires. These could be tabulated under such listings as Landscapes, Portraits, Genre, Patterns, etc. We are not afraid this will handicap him, but on the contrary feel it will stimulate his imagination and point the way to newer fields and better work. Because by the time he is ready to "copy", his own individuality will have crept into the picture and the result will be another "original".

All workers, especially those in professional circles, derive inspiration from others, even if they don't admit it. And those few who conscientiously try not to imitate directly are still subject to the rule that there is nothing new under the sun. Mark Twain was quite right when he stated the only man who was really original was Adam—at least, *he* could be pretty sure no one had done the thing before.

There is, therefore, no need to be apologetic in seeking inspiration from others—as long as we look in the right direction and show good taste. This, Dever Timmons, A.R.P.S., has done. He deliberately, and successfully, chose Gainsborough as the source for "Summer Silhouette". The result is a photographic rendition of a Gainsborough—a lovely lady in flowing dress with picture-hat placed against a sympathetic background. Also present is the typical Gainsborough treatment—the securing of a definite effect as opposed to the rendering of detail. Gainsborough was much more concerned with the effect of a picture when viewed





SUMMER SILHOUETTE

By DEVER TIMMONS, A.R.P.S., F.R.S.A.

as a whole than with the rendering of unmeaning detail purely as such. He made his paintings to be viewed at a certain distance and not to be scrutinized so closely that the paint would stick to the nose—something to be remembered by many camera workers whose fetish for unearthly definition and “fine grain” keeps them awake at night with photographic night-

mares. They worry about the “mechanics” when their thoughts might be with the “picture”—the whole effect.

“Summer Silhouette” has a decided lyrical mood. There is no hint here of aggressiveness or drama, but rather the sensation of a sweet lady’s presence and the charm of the countryside in a peaceful mood. The graceful model fits perfectly

in such a setting; there is no clash here between the figure and the landscape which is so often the case in studies of this type. The absence of disturbing detail lends a "broadness" to the picture, which, together with the arrangement of light and dark tones, is extremely suitable for the suggestion of romance.

The composition is based on the Circular form. This is determined by the dark masses of foreground, tree and branches which act as a frame for the figure. Incidentally, the strong contrast of these dark masses also gives a striking illusion of great distance when compared to the lighter tints representing far-off hills. The flow of line from the feet to the figure leads the eye along the base of the tree to the top of the picture where the overhanging branches prevent the gaze from wandering. This basic circular pattern is repeated in many forms throughout the whole picture, emphasizing the graceful mood. Note the circular shape of the area formed by the back of the dress and the outline of the tree, "1", in the sketch, with the repetition of this general form in the spacing formed by the foliage at points "3" and "5". The large hat held in the hand and the outline of the head in the billowy cloud all contribute to the circular scheme. The only dissenting note is to be seen in the lower left-hand corner, "7", where the skyline starts rather abruptly from the edge of the picture.

Obviously, the center of interest is the figure—the landscape merely serving as its foil. By size and position, and the important fact that it is the human figure, it obtains a dominating influence which is natural and complete. This is further intensified by the low camera angle which places the model high above the skyline, forming the silhouette against the lighter background. It is also the only large mass which stands out clearly by itself, everything else being subordinated to serving as a framework.

Then, too, and very important, further analysis shows that the outline of the head is the hub from which radiate all the circular forms. Or, putting it in another fashion, it is the one spot to which practically all lines point or converge as will be seen by "2", "4", and "6". Even the flowers held in the hand serve as an upward spoke to centralize the eye. The dark accent of the hair and face is purposely placed in the lightest area—the cloud—creating further emphasis in this area. In fact, this systematic arrangement comes dangerously close to making the structural pattern too obvious and the more severe line of the foreground to the left contributes a welcome angular note to add variety to the circular regularity.

Timmons has cleverly placed his figure so that it looks from right to left. The eye, however, enters the picture from left to right, due to the habit of reading in this direction. As a result of collision of movements, the composition gains force. The gentle backward sweep of the long dress, as it seems to sway in the breeze, gives further impetus to this effect. If the picture were reversed in the enlarger so as to have the figure looking from left to right (which is sometimes a good thing to try) the mood would have been changed but in this instance it would not have been for the better, as Timmons was fully aware.

The inspiration may have been secured from Gainsborough, but in the transition from brush to camera the photograph became definitely a Timmons. While the theme is drawn from the painter's domain, the execution and treatment are as photographic as anyone could wish, the print being secured from a straight enlargement, and it is interesting to note that this well-known picture has won high honors in the competitive salons of many nations.

Next month's Pictorial Analysis will reproduce and criticize a print by Dr. Max Thorek, F.R.P.S., F.R.S.A.

Rolleiflex Rolleicord

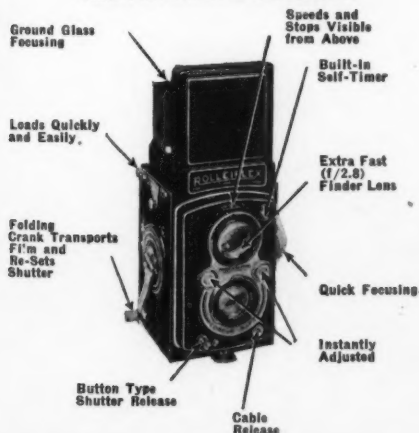
The Cameras That Make The Pictures ... That Make Photo History!

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[A full line of accessories is available for Rollei cameras. If your dealer cannot supply you with full information, write for illustrated booklet.]

BURLEIGH BROOKS
INCORPORATED
127 WEST 42ND STREET - NEW YORK

Being CRITICAL

*What's wrong with these snapshots
and how to improve them.*

THE first requisite for pictures showing rapid action is a high speed shutter. For ordinary subjects, practically any shutter will do, but the minute we go into sports or other fast activities, it is hopeless to do passable work without adequate equipment. To stop fast action, a speed of 1/500th of a second frequently is required. If the party who took "Speedboat Ride" had not been in the boat, but on the shore as the speedster passed closely by at a right angle, even 1/500th of a second would not have stopped the action completely. However, the photographer being actually part of the action here—that is, traveling along in the same direction, a speed of 1/300th of a second was sufficient to get a sharp picture.

This principle of being able to take fairly fast action pictures with a comparatively slow shutter speed by following the direction of the movement is one which is known to newspaper photographers. At a race track, for example, when the horses pass by, instead of holding the camera still and using a high shutter speed, a more realistic result is obtained by tripping the shutter and at the same time swinging the camera along in the same direction as the movement of the horses.

This "follow-through" enables use of a slower shutter speed, say 1/200th of a second or less, stopping the action of the horses, and at the same time blurring the stationary background. This blurred background in this case instead of being a drawback is actually of great advantage in creating the illusion of great speed. The contrast between the sharply defined moving objects and the distorted background gives the viewer an impression that he himself had been at the scene and had followed the action through by swinging his head in a semicircle, the same as we see at tennis matches when thousands of heads move from left to right as they watch the play on the court. When we do not have a camera with a highspeed shutter, we

can overcome this handicap to a great extent by moving the camera with the action.

There is another factor to be considered. Many professionals deliberately do not try to stop completely the movement of any fast action, as they are afraid of "freezing" the scene—they would rather show a blurring someplace or other to get the idea across that things were traveling rapidly. But a part of the subject should be perfectly sharp, even if a leg or arm is blurred by movement.

While the diagonal slant of the horizon line helps further to increase the feeling of action in "Speedboat Ride," at the same time it seems a bit queer to have the large boat in the distance tilted at such a dangerous angle. We suggest straightening the picture in the enlarger to correspond with the lines as shown.

"DUCKS" shows anything but action—in fact, it is a bit too static for any purpose. To begin with, the lighting itself is flat and uninteresting. The spacing of the ducks is too systematic and regular to allow the formation



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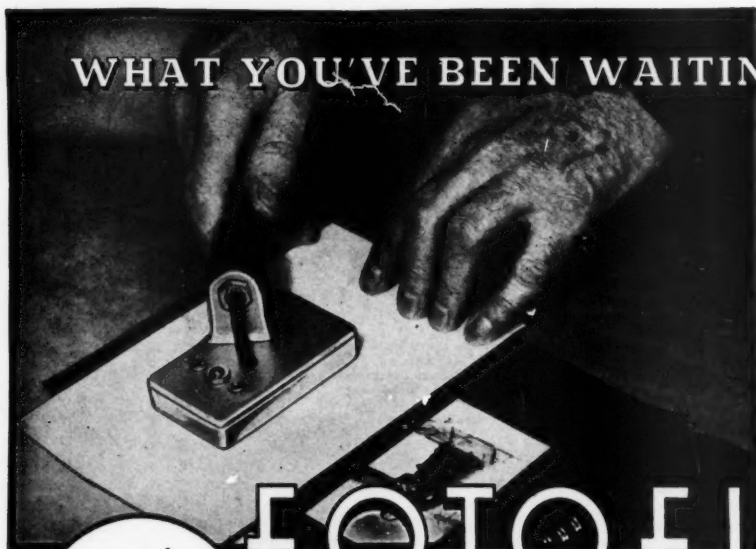
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of an interesting pattern. They look like decoys rather than live birds. The only suggestion of action is contained in the diagonal shore lines,



● "DUCKS"—1/100th at f6.3,
DuPont Superior.

but in this instance they are of such a medium tone and relative unimportance that they do not materially benefit the picture. We grant that it perhaps was never intended to show action, but we can carry the idea of inactivity too far, in this case, because even the ducks appear listless and tired as if they were bored even with the photographer. More room might have been allowed to the left of the picture, and some cropping done from the bottom.

To Straight-Edge Prints

To straight-edge a print lay it face downward on a flat surface, grasp one end of it between the thumb and forefinger of the left hand, draw the flat surface of a draughtsman's ruler from the top to the bottom of the print while lifting up on the print with the left hand. A little practise will determine the



amount of pressure that is required to insure positive contact with the ruler. In case a print is dried thoroughly before being placed in a print press it will be difficult to straight-edge it without breaking the emulsion; the remedy is to slightly moisten the back of the print with a sponge dipped in water.

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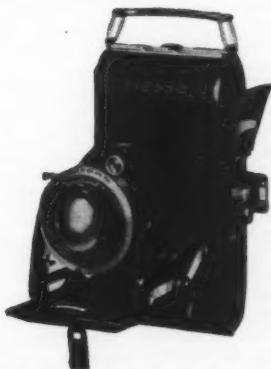
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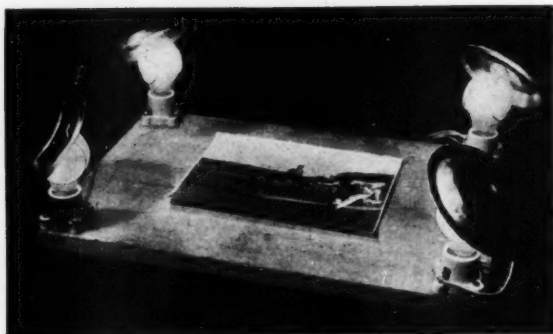
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- For copying, with either a camera or an enlarger, a uniform distribution of light is necessary. Fig. 1.

By RAY KERSHNER

Illuminated COPY BOARD

FOR satisfactory results in copying, a constant light source should be used at a uniform distance from the subject. The copy board shown here fulfills these requirements at a minimum cost.

The materials used, with the exception of the "bread board" base, all are obtainable at a dime store. The materials required, as shown in Fig. 3, are as follows: 4 light sockets, 4 electric light brackets, 4 tin pie-pans, and a length of lamp cord with plug. Also required are four small bolts for attaching the pie pan reflectors and 8 wood screws, about $\frac{3}{4}$ inch, for fastening the sockets to the base board.

The reflectors are assembled by punching a hole in the center of each pie plate and then bolting to a lamp bracket, as in Fig. 2. The reflectors slip over the bulbs and are adjustable to any position.

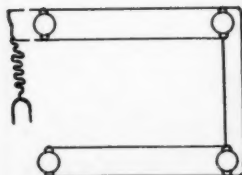
For wiring the sockets together, lamp cord may be used or, better, a length of No. 14 insulated wire; about 12 feet of single conductor will be required or twice the circumference of the board base. The base is obtainable in various sizes, but unless large documents are to be copied, the 2-foot size is most suitable. The only tool needed is a screw driver.

The lamps are wired in parallel as shown in Fig. 4. Run one wire to connect the four inside lamp terminals. With a second piece of wire, connect the other terminals of the sockets. Scrape about a half inch clean where the wire goes under the screw. The lamp cord now may be connected to the two terminals on one of the outside sockets.

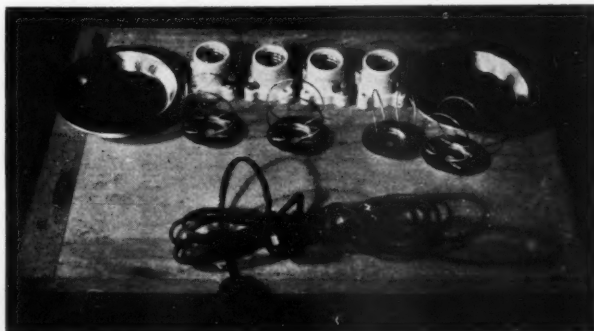


- Each reflector, a tin pie plate, is bolted to a lamp bracket. Fig. 2.

- Ready for assembly (below). The materials, with the exception of the "bread board" base, were obtained at the dime store. Fig. 3.



- The lamps are wired in parallel, as shown. Four 50 or 75 watt lamps may be used. Fig. 4.

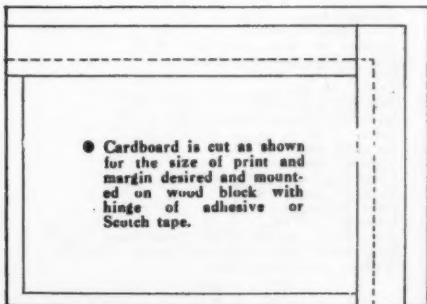
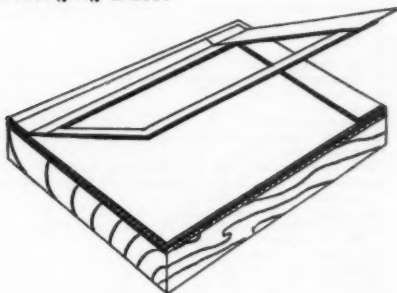


Sockets with covered terminals are preferred to the bare variety to eliminate the possibility of shock from touching a bare terminal while the lights are plugged in. Do not plug in until all of the connections are completed. For a neat job, the wires may be fastened to the edges of the board with insulated staples.

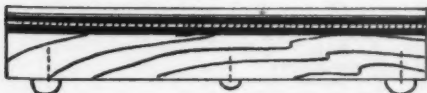
A screw eye in one edge of the board will enable it to be hung on the wall for copying in a horizontal position. The copy is held in place with thumb tacks or push pins on the board.

The exposure to be used will depend on the size of lamps used, distance of lamps from copy subject and size of the reflectors. With four 50-watt lamps and orthochromatic film, an exposure of about one second at f/8 will be approximately correct. As the position of the lights are fixed, a few test exposures will suffice to furnish an accurate exposure guide for all work with the board. It may be used for holding and illuminating photographs or other flat copy for copying either with a camera or enlarger. For exact data on how to use an enlarger for copying, see MINICAM for September.

Enlarging Easel



- Cardboard is cut as shown for the size of print and margin desired and mounted on wood block with hinge of adhesive or Scotch tape.



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Mr—March, 1938

Ap—April, 1938

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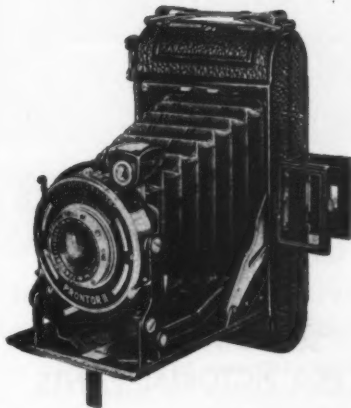
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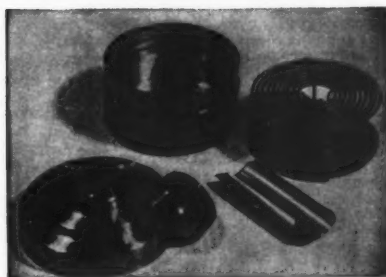
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FILM TANK

When using the Nikor film tank, and other tanks of similar design, turn the tank bottom side up during development. Not a drop will leak out around the cover joint, as the case when used right side up.

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In closing a sliding metal tripod one is apt to get a serious cut or pinch from the sliding tubes. To close the tripod, set the point of one leg on the floor and then press down from the top. If the lock holds fast, press the catch while gradually pushing with the other hand on the top. Don't try to close a tripod too fast and don't grasp the tubes with the hands.



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Book Reviews

THE AMERICAN ANNUAL OF PHOTOGRAPHY, Vol. 53, 386 pages, 101 pictorial illustrations. *American Photographic Publishing Company*, Boston. Price, cloth bound, \$2.25; paper, \$1.50.

As usual, the "Annual" carries between its covers, a salon—101 excellent reproductions—an encyclopedia—developing formulas, tables of weights and measures, etc.—a textbook,—23 articles including such titles as "The Rationale of Pictorial Composition," "The Understanding and Use of Filters," etc.—and a directory,—"Who's Who in Pictorial Photography," furnishing the exhibition records of more than two thousand pictorialists from all parts of the world, including 613 from the U. S.

In the article, "Our Illustrations," Frank R. Fraprie, the editor of *American Photography*, furnishes a scholarly discussion of each of the prints reproduced and its composition, psychology and technical details.

COLOR PHOTOGRAPHY FOR BEGINNERS, by R. M. Fanstone, A.R.P.S., 136 pages, 4 color illustrations. *Camera Craft Publishing Company*, San Francisco. Price, \$1.50.

A simple, practical guide for the beginner in color photography, this book includes the following chapters: Subjects for Color Photography, Exposure, Processing Color Films, How to Recognize and Correct Faults, Finishing and Displaying Color Transparencies. There are color illustrations made with Agfacolor and Dufaycolor, and the use of Kodachrome, Dufaycolor and Finlay processes are each taken up and explained in a useful, practical way.

LIVING COLOUR, by John Everard. *Dodge Publishing Company*, New York City. Price \$3.50.

This is the first photographic book to be done exclusively in color. It is also the first book of nudes to be made from direct color photographs. Mr. Everard, who is one of the foremost photographers in England, has produced a book which includes twenty-four full-page photographs, each done in five colors. Some models are shown singly, others are in groups, and in each photograph color has made a living image of what would otherwise be a static black and white production. Facing each plate is a diagram of the picture pointing out the composition involved, along with the technical detail of the exposure, lighting and filters used.

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Action



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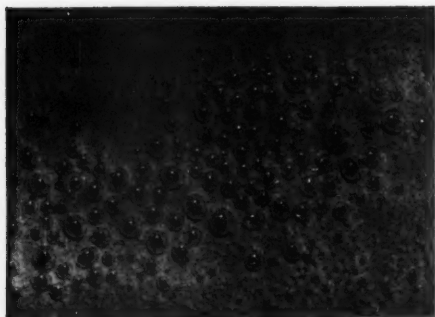
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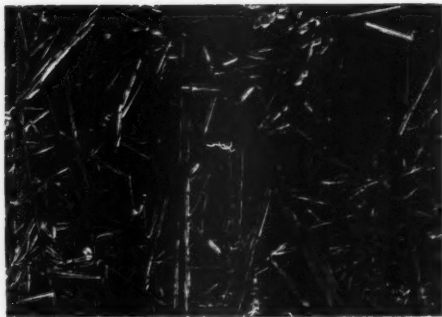
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● Under the developer tray.

Fig. 1



● In the washing tray.


Fig. 2

Design in the Darkroom


THE limitless horizon of camera opportunities does not end even at the door of the darkroom. Fig. 1 unfortunately, or fortunately perhaps, resulted from carelessness—pools of developer and hypo having slopped onto a wood drain board. Returning to the darkroom one evening, the photographer saw many mysterious and beautiful crystals formed on the board as a consequence of the drying of the pools.

Being photographically minded, it was "camera before cleanliness." The camera was set on a tripod and arranged as for copying, straight down and in strict parallelism with the subject. Lights were arranged to come from the side.

On another occasion, the photographer found himself watching his Eastman Trap Siphon, which sucks polluted water out as fast as fresh water runs in. The continuous agitation of the water caused the formation of small bubble pools in each of the corners of the tray. Lights



SUMMER
OR
WINTER



ACTUALLY this view of the Canadian Rockies was made in July. But by the choice of a yellow filter and Du Pont Superior Pan, the river appears to be covered with ice, and the hills in the foreground look like they were covered with snow... Proof again of the all-around versatility of Du Pont Films for the Miniature Camera. Load with Du Pont and be prepared for every picture opportunity. You can buy Du Pont Film from your leading Photo Supply Dealer.

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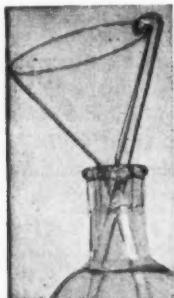
and camera came out, and Fig. 2 resulted. Camera procedure was the same as before. The inrush of water was halted, of course, and the water allowed to quiet down. Exposure was 1 second at f/32 by weak, indirect light.

Developer crystals and water bubbles, no doubt, are but two of many picture opportunities which offer themselves where you would least expect them.

Stirring Rod

A glass stirring rod, with a crook bent on one end, finds several important uses in the dark room. Hooked on the rim of a tank or tray, it will not fall in.

Its most effective use is when pouring solutions through a funnel into a bottle. If the rod is inserted into the funnel, as shown in the photograph, a space is left for air to come out.



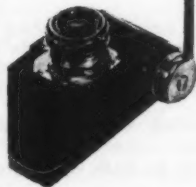
It is made from a piece of glass rod about 12 in. long, bent into a crook at one end by gently heating the end over the gas stove. When the gas flame is tinged with gold around the rod, it may be heated more strongly, care being

taken to rotate the rod all the time. When the glass becomes soft it can be bent by pressing it at an angle against any hard surface.

"Range Finder" for Close Work

Sharp focus, always important, is especially so at close range.

Using supplementary lenses for close-ups or when working at unusually close distances, as with the new Argus which focuses to 15 inches, requires a scale to measure the distance accurately. One of the small steel flexible scales found in the dime store can be made a regular accessory by drilling out the center shaft and substituting a 1/4-20 stove bolt about an inch long. The head may be filled almost flat and a slot cut in one side to anchor the tape spring as it was before. When assembled, the tape may be screwed in the tripod socket and pulled out for use; after the measurement is taken it will return automatically to its case and enable many unusual closeups to be taken without the use of a tripod.—F. Dale Smith.



"How to Make Contact Prints," a complete illustrated how-to-do-it-article will appear in the next issue of MINICAM.

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Vol. 28, No. 10.

OCTOBER, 1938

The other day we "horse-traded" a camera that we sold a man in 1914. He finally tired of it even though we were sure it was a "permanent" transaction.



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President

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3 3/4x4 1/4 revolving back R.B. Auto, F:4.5 Kodak lens, like new, with film adapter at 99.50
5x7 Stereo Graflex, matched pair Dogmar F:4.5 lenses and film adapter. 135.00
45x107 mm. Richard Verascope, F:4.5 lenses, with auxiliary lenses, plate magazine timer, sunshades and case 54.50
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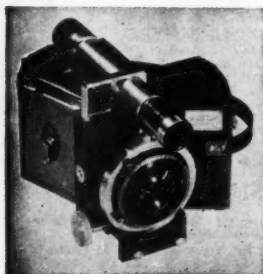


● The "Photographic Van" used in the Crimean War.

THE diaper days of photography are not far behind us. Less than a hundred years ago—in 1839—Daguerre first announced his picture-making process.

There are many things the photographer of almost a century ago would not have predicted in the way of modern camera procedure. But most of all, he would not be able to understand the existence of a darkroom without wheels.

A photo laboratory wasn't much good in those days if you couldn't take it along with



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New York City

you. Eight minutes was the maximum time permitted to elapse between shot and development. But even then, before you had decided to open your shutter, the plate had to be prepared. Every photographer was his own plate-maker. It was necessary to take along a large bottle of distilled water, fuming devices, stands and countless ingredients in order to bring back some trite landscape in a murky grey. What a clinical picnic it was!

In the wet plate method, a glass plate



• In order to take a picture in 1876 it was necessary to put a darkroom like the above on wheels.

first was washed carefully in distilled water and then coated with collodion. It was best not to breathe during this step—bubbles might form on the emulsion. Then the plate was heated in a solution of nitrate of silver, dipped into a number of other baths and presto!—our cameraman was all ready to rush out and take his snapshot. "Pose, please. . . . One, two, three, four . . . three hundred seventy-one . . ." (Only 30 seconds more to go!) Back he dashes to the darkroom with a

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muttered prayer that the emulsion hasn't dried out in the meantime.

The darkroom of 1860 offers an interesting contrast to today's. Our developing rooms are jammed with devices and gadgets of all kinds; 80 years ago the photographer had slight technical aid.

Despite these complications that made the shooting of a seascape an event of state, a photographer named Brady had the novel idea of photographing the Civil War with his camera. Fitting up a darkroom in a buggy drawn by horses, off he went for the battlefields. While the battle raged, Brady used to creep into his rolling darkroom and there perform miracles of delicate processing operations. Often his darkroom was in direct danger, but he thought of saving his plates before his life.

Before Brady, Roger Fenton had constructed a mobile photo-laboratory . . . the Photographic Van. At the outbreak of the Crimean War, he loaded his colossal van on a boat and landed in the Crimea in 1855. Despite his impressive equipment, his photographs were somewhat disappointing. His plates were hardly sensitive enough for the recording of actual scenes; he could only show the fields after a battle. Nevertheless, Fenton deserves credit for his daring expedition. He was the first of a line of intrepid news photographers and documentary film reporters.

Look for Future "The Camera Turns Back" articles in MINICAM presenting more interesting highlights in photography's past.

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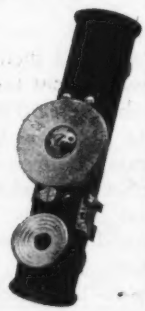
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SPOOLING CUT FILM ON ROLLS

By C. W. Gibbs

FOR many cameras, roll film is available in only a relatively few emulsions. The photographers using 35mm cameras may use the slow positive film for making copies and photomicrographs, while the owners of cameras employing cut film or plates have an unlimited variety of emulsions from which to choose when they are desirous of engaging in some specialized phase.

When there is a need for a slow, high contrast film, the roll film camera owner may try to obtain the proper results by using an ortho film and developing in a high contrast developer. This is not always attended with the best results.

It is possible, however, to obtain a high contrast emulsion by cutting a film down to the proper size and winding it on a discarded spool and film wrapper. It is not an easy matter to do this with cut films of the normal thickness, but there are varieties of positive and process films which are coated on a base no thicker than the standard roll film. By purchasing a package of 8x10 cut film, such as "Process Extra-Thin Base," and cutting it into strips the same width as the regular roll film, the owner of a half V. P. camera will have a sufficient length of film in the ten-inch strip to make six copy shots.

By careful cutting, five strips can be cut from each sheet of 8x10. Thus in a dozen 8x10's there will be sufficient film to make 360 copies of the half vest pocket camera. It is very convenient to have the copy film in short lengths, because it is often necessary to make but a few copies at a time.


The positive and process films are very easy to handle, as all manipulation may be carried out under the usual bromide safelight. This makes it easy to cut the film accurately and to wind it properly on the spool.

Before spooling the film, make an exact measurement of the film and then cut a sheet of ordinary bond paper to that measurement to see if it is not too wide to fit the spool. The usual trimming board is not very accurate. It is better to cut a little *under* the measurement than over.

When the proper size is decided, then cut a strip of film. Wind an old film wrapper on a spool, beginning with the last exposure. When at about 10 inches from the point on the roll where the original film was fastened with a sticker, start to wind in the film along with the paper. Remember, the back of the film is next to the black side of the paper. When the end of the film is reached, seal with

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a piece of Scotch tape. Do not seal the starting
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the roll has been all wound we are ready to
make a few test exposures.

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only be the necessity for finding the right ex-
posure and always giving that exposure in the
future, so a variety of exposures may be given
on the first roll to determine this.

When the test exposures are completed the
roll may be developed in a regular roll film
tank in ordinary paper developer, such as D72
for about 90 seconds. The best exposure is
then selected as the standard for future work.

The simple cutting down of films greatly
widens the photographer's choice of emulsions.
Many miniature cameras today, such as the
Univex, Bantam, Ensign, etc., use special spools
and only a limited variety of films are supplied
for each. By cutting down other roll films it
is possible to obtain a greater variety of emul-
sions. Re-spooling is not a difficult task and
the cutting down of other roll films is not
impossible. With some very fast emulsions it is
most advisable to cut them down in total dark-
ness. Obtain a long steel straight-edge and cut
along it with a razor blade.

We consider the ideas given herein are most
important to the amateur using the cameras
taking standard roll film or film on special
spools. He is no longer dependent upon the
few listed varieties—but may now choose his
emulsions to fit his particular needs.

SHORT STOP

If 28% acetic acid is required to make up a
certain formula and only glacial acetic is avail-
able a 28½ solution can be made by taking
6 ounces of glacial acetic and adding it to
16 ounces of water.

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Develop negatives "back to back." Whether
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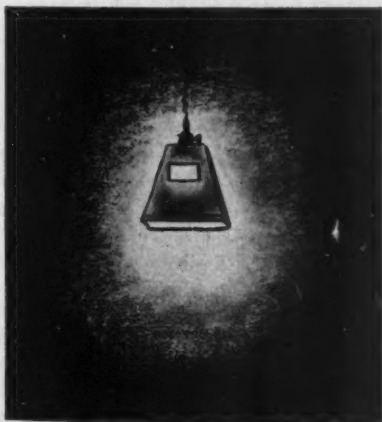
THE HINES CASE

(Continued from page 43)

and ever on the nervous edge, when a young man made a dash through the front door. One of the cameramen yelled: "A witness!", but the man was down the steps, heading for the street. The boys were after him. "Hey, wait a minute!", many of them shouted, but he paid no heed. They finally caught up with him at the corner. "Hey, what do you want? I'm no witness. I'm just one of the court employees." With perspiration streaming down their faces, they shamefacedly retreated back to their posts.

It is, however, an illustration of how faithfully the cameramen work, ever on the trigger, quick not to miss a shot. It reveals, too, the intense strain of their jobs.

All the news men are using Graphics on the story, and work with speed flashes. One of the reasons for this is that they will be prepared if the sky suddenly darkens with threatening storm, or if a sudden shift in regulations will permit them to work inside. They do not want to be caught napping. They generally use a Pan film and a lens stop of either $f/8$ or $f/11$, shoot at a shutter speed of $1/200$ th, and usually hold the focusing distance to 12 feet, changing only for general views or head-and-shoulder shots.



• That's not the film you're reeling into the tank, Harris, it's my tie.

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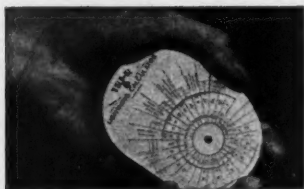
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ENLARGING CONTROL

(Continued from page 38)

condensers are one or two convex lenses (magnifying glasses) placed between the light source and the negative. The diffuser type enlarger utilizes a sheet of opal glass between the light source and negative.

Condensers, however, show up every defect on a negative, accentuating scratches, dust and abrasion marks. The condensers and the negative must therefore be kept spotlessly clean. Lenses may be cleaned with a soft handkerchief, one that has been thoroughly washed, and then brushed with a camel's hair brush. Surface marks on a negative that have not penetrated into the emulsion may be removed by brushing and then going over lightly with a tuft of cotton dipped in alcohol. The film then is polished with a piece of very fine velvet.

In its favor, it should be said that the diffuser type minimizes dust and abrasion marks.

Before starting with the actual operation of making a controlled print, it is advisable to understand the part played in development by each of the chemicals. For the person who is truly interested in photography it is more economical, and far more interesting too, to purchase bulk chemicals and compound the formulas as needed. Dry chemicals keep well in their containers. Developers in solution, dissolved in water, do not keep well unless placed in bottles full to the top and tightly stoppered to prevent air getting in.

The actual work of development is fundamentally the same whether it proceeds on film, paper, negative, or positive material. Development as a chemical process is the reduction of silver salts to metallic silver. This work is done by chemical reducing agents in the developing solution.

One of the most common reducers is the chemical compound "Metol." It also appears under various trade names, such as "Elon." In action, it works slowly and consistently, and is excellent for bringing

out detail. Its activity is not much influenced by temperature.

Hydroquinone is the other reducing agent familiar to most paper developers. In action, it develops the fully exposed portions of a negative, the highlights, more rapidly than the less-exposed areas. Thus, it builds up contrast rather than detail in the shadows. Increase of temperature accelerates this action.

By combining metol and hydroquinone in one formula, the former chemical provides softness and detail, and the latter, brilliance and contrast. The familiar expression "M-Q" means "Metol-Hydroquinone." Another name for hydroquinone is "Quinol."

In order to act, the above reducing chemicals require an alkaline solution. For this reason, an alkali such as sodium carbonate, known to the housewife as washing soda, is used. Increasing the amount of sodium carbonate accelerates the action of the metol and hydroquinone. For this reason, sodium carbonate is called an accelerator.

Sodium sulphite is the preservative. Taking no active part, it prevents the active reducing agents from combining rapidly with the oxygen in the air. Without a preservative like sulphite, a developer would deteriorate before it could be used.

Potassium bromide is a restrainer used to slow up the action of the reducing agents. It helps to keep a print's white highlight areas clear. Too much bromide, however, will give a print an olive tone.

When a print is developed to the desired density, the next step is to stop developer action promptly. For this purpose, the shortstop bath is used. Acetic acid neutralizes the carbonate in the developer. Developing action ceases as soon as the print is placed in the acid solution.

The hypo solution next dissolves the unexposed silver in the print. The potassium alum in the hypo solution serves to harden the emulsion. Understanding the part played in development by each of the developer's chemicals aids the understanding of development control methods.

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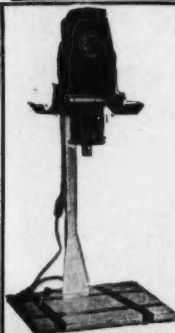
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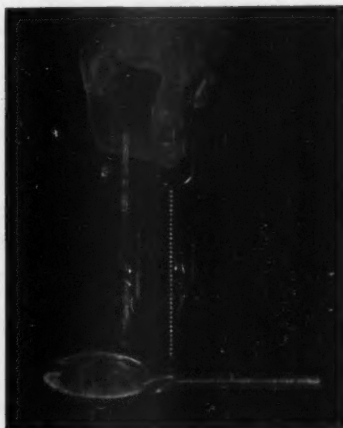
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Photography TRADE NEWS

CLEVEREST gadget of the month is the Raygram Weigh-Spoon, a handy accurate hand scale of sturdy metal construction for weighing chemicals. The spoon is dipped into the chemical and suspended from the hand on a chain. A counter balance built into the handle is adjusted for weighing up to 10 grams. Retail for \$1.00. For further information, write Raygram Corp., 425 Fourth Ave., New York City.

The Raygram Corporation also announces that it has taken over general distribution of the Maxim Enlarging Exposure Meter. An efficient extinction type meter ... has no moving parts and is constructed sturdily enough to last indefinitely under ordinary use.

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ment about the easel is free, as there is no cord to plug in and hinder the action of the meter. The Maxim Enlarging Exposure Meter is the least expensive enlarging meter on the market, retailing at \$2.95.

Third new Raygram item is their Transparency Viewer with a Hole Punch whose unique arrangement allows the quick and simple selection of negatives. It is a compact, highly efficient instrument for viewing 2x2" transparencies and 35 mm. strip film. An invaluable aid for editing 35 mm. film. Open gate tracks for 8 mm. and 16 mm. film available. Can be used with any standard splicer or rewinder. The focusing eye piece is adjustable to individual sight range. Produces a perfect, brilliant image. Retail price, \$3.25. For further information, write Raygram Corporation, 425 Fourth Avenue, New York City.

Giant and Midget

THE two Victor lights contrast sharply in size. The large light is the 18-inch Professional Banquet Light which uses the powerful No. 4 Photo-flood. Behind it is the new 3 1/4-inch Victor Midget Clamp-on Model which makes effective the inexpensive No. 1 Photo-flood. James H. Smith & Sons Corporation manufacture a complete line of lighting units, both clamp-on and stand lights, as well as a new Table Model, in all sizes that range from the Midget to the Banquet.

The greatest need in indoor photography is adequate light. Lamp manufacturers have accomplished much for the photographer by adapting the over-loaded filament lamp to photographic use, such as the modern Photo-floods.

However, a lamp globe used without a suitable re-

sector falls considerably short of its possibilities. Light is wasted in every direction. Hence, reflecting bowls are necessary to secure the best possible illumination for the current consumed.

Numerous experiments by lighting engineers have demonstrated that for best results a reflector for photographic work should concentrate the light output of photoflood lamps within the area useful to the camera; that polished reflecting surfaces develop "hot spots" or uneven light distribution by focusing the filament at a central point in the illuminated area; that scientific design and proper centering of the lamp is essential; that corrugated or concentrically ringed reflectors produce disturbing unevenness in the reflected light; and that frosted aluminum reflecting surfaces yield most desirable illumination for the photographer.

The Victor line of photographic lighting equipment is representative of the best in design and effective light control. All Victor reflectors have fine frosted in-



teriors, are spun from aluminum sheets to parabolic shapes, each designed to serve its specific lamp most efficiently. The circular areas illuminated represent definite degrees of arc, and show unusually even distribution of light.

For example, the Victor Midget, which uses a No. 1 (25c) photoflood lamp, is a 30 degree light of considerably higher efficiency than other miniature size lights. The Victor Petite models illuminate 45 degrees very evenly and step up the effectiveness of their No. 1 photoflood lamps, four times over that of the open bulb. The Victor regular models, of the same 45 degree type, increase the effective light another ten per cent. Thus, it is apparent that, with modern ultra speed film in your camera, you may do very creditable indoor work with the lowest cost photofloods and such reflectors as the Victor units mentioned. There are Victor units so efficient that action shots in color with Kodachrome or Dufaycolor may be made as simply and easily as outdoors, and with much better control.

This is the time of year to turn your camera upon indoor subjects. To discover what assistance is available in lighting equipment, send to the manufacturer of Victor Photographic Products for current literature. Address James H. Smith & Sons Corp., Griffith, Indiana, when making your request, and ask for the Victor lighting equipment folder.

Big MEDO Catalog Just Off the Press

THE new Medo catalog, with its strikingly attractive cover in red, silver and black, is most comprehensive, and provides a mental feast for camera enthusiasts of all kinds—amateur, professional and dealer.

There are 200 pages describing a wide range of imported and domestic cameras, lenses, supplies of all kinds and much useful information—all profusely illustrated.

The Medo people are offering this catalog for twenty-five cents in coin or stamps. This amount may be credited against any order from the catalog. The address is Medo, 15 West 47th Street, New York City.

Miniature Negative and Enlargement File

THE new *Fotofolio* made in book form, will accommodate enlargements up to six inches wide and will hold 200 prints.

Envelopes with scratch-proof and dust-proof fillers to

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accommodate 216 negative frames are located in the back of the *Fotofolio*.

Gummed cloth hinges are furnished attached to the leaves ready for the mounting of prints in step formation, one above the other, 25 to the page. Price, \$3.50.

The *Fotofolio* is bound in bright red, and resembles a literary book, rather than an album. The pictures are arranged in it similar to the manner in which the Remington Rand Cardex or Visible Index files are kept in offices.

See these at your dealer or write E. E. Miles Company, South Lancaster, Mass.

Graf Forms New Lens Company

RICHARD GRAF, son of the late Christopher Graf, whose names have been famous in the photographic and lens field since the latter part of the nineteenth century, announces the formation of the new R. Graf Optical Co. with its principal place of business located on the entire ground floor of 711 W. Lake Street, Chicago, Ill.

Mr. Graf has severed his connections with all of his past associates, and has become associated with Mr. Lee Stern.

Mr. Graf is known in the photographic and lens field to many old-timers. His father, Mr. Christopher Graf, and he inaugurated the lens division of the Eastman Kodak Company. In conjunction with Mr. Christopher Graf, Mr. Richard Graf, who is head of the newly formed R. Graf Optical Co., developed a complete line of lenses called the "Graf Variable Lenses." This met with such tremendous success, that they were used extensively in the cinema field, due to the fact that these lenses offered a sharp and soft picture, and gave an image quality to such a degree that such pictures as "The Ten Commandments," "Ben Hur" and the "Covered Wagon" and many other spectacular films were created. They also developed a line of Anastigmat lenses for professional photographers, these being the first ever made from American glass. Also developed by the Grafs were highly color-corrected lenses for color and process work.

The purpose of the new R. Graf Optical Co., with its new scientifically perfected equipment, will be to turn its efforts toward the perfection of quality high-grade finer lenses and instruments.

Photrix Adapter Attaches Meter To Miniature Cameras

THE small size and streamlined shape of the Photrix Exposure Meter suits it for attaching to miniature cameras such as the Leica, Contax, etc., where it is in position for instant use. By means of a small bracket adapter, every camera can now be converted to one with a "built-in" exposure meter. The Photrix is simply inserted between the guiding clamps of the adapter, and the assembly slid into the view finder clip of the camera. The Photrix is held as securely as if it were a part of the camera itself, and the exposure may be read at a glance. Since there are no computer rings to set, the proper exposure time is arrived at quickly. The Photrix, together with the Photrix adapter may be removed instantly.

This new method of using an exposure meter simplifies your exposure problems. Write to Intercontinental Marketing Corp., 8 West 40th Street, New York City for further information.

Zephyr Camera

THE PHOTOGRAPHIC INDUSTRIES OF AMERICA, Inc., 136 Liberty St., New York, manufacturers of the new \$22.50-\$29.50 All-American Zephyr candid camera announce that an 8-page illustrated folder featuring the Zephyr camera has just come off the press.

All those desiring a copy may either write to the manufacturers above or to their local distributors—Raygram Corporation, 425 4th Avenue, New York; Horstein Photo Sales, 29 E. Madison St., Chicago, Ill.; Seeman's, Inc., 6628 Santa Monica Blvd., Hollywood, Calif.

Newly Designed Meter

G. GENNERT, Inc., 20 W. 22nd St., New York City, announce that it has taken over general distribution of the Lumy optical exposure meter. The Lumy is an exposure meter of entirely new design in which the setting of Tables has been dispensed with. It is a reliable appliance for ascertaining times of exposure with the minimum delay. The required time of exposure and the aperture may be found in the Table by means

of the figure seen in the meter.

Th \$2.30 Lumy is provided with openings of suitable depth, which protect the value representing the brightness from light, and which simplify reading the figures.

Price Reductions by Bell & Howell

THERE'S a happy note of business activity and optimism in the price-reduction news reported today from Bell & Howell Company, world's largest manufacturer of motion picture cameras and cine equipment.

"Business is good," says the report. So good that savings have been effected all along the factory production line as stepped-up orders came through. It is stated that to meet demand on some Filmo products, Bell & Howell assembly lines are working twenty-four hours a day, seven days a week.

As an economic result the following price reductions, representing various savings now being passed on to customers as a further business stimulant, have been announced:

8 Millimeter Cameras

	Former Price	New Price
134-E with 12½ mm. F2.5 lens..	\$ 80.00	\$ 75.00
134-G with 12½ mm. F3.5 lens..	55.00	51.50

16 Millimeter Cameras

70-D with 1 in. F2.7 universal lens	\$192.00	\$180.00
70-DA with 1 in. F1.5 focusing mount lens	266.50	252.00
70-DB with 1 in. F2.7 universal lens	192.00	180.00
Filmo 121 with 1 in. F2.7 universal lens	85.00	79.00
Filmo 121 with 1½ mm. F2.5 focusing mount	115.00	109.50

The above lists only some of the B&H line that has been reduced in price.

New 4x4 cm. Praxidos Enlarger Has Mask for 35 mm. Frames

Comes Equipped with a 6 cm. f/4.5 Lens

A NEW MODEL 4x4 cm. Praxidos Enlarger is on the market. It will take any negative 4x4 cm. or smaller—or parts of larger negatives in that size range. Also, and most significant to many miniature fans, is the fact that a 35 mm. frame is included. Owners of Leica and Contax cameras will no longer be bothered with having to take the lenses out of their cameras to do their enlarging. And Argus enthusiasts will not have to buy more expensive equipment to do their own projection printing.

This new, versatile, 4x4 cm. Praxidos is essentially the same in construction as the popular 6x6 cm. Model "O"—has an f/4.5 lens, with diaphragm, condenser, negative carrier, mask, bulb and baseboard. It lists at \$27.50 and is distributed by Burleigh Brooks.

Movie Film Price Cut

GEVAERT announces the following price changes on 16 mm. Reversal film:

	100 ft.	50 ft.
Panchro Super Reversal	\$6.00	\$3.25
Panchro Micrograin	4.50	2.50
Oritho Reversal	4.50	2.50

(Prices include processing)

These films are of the same high quality as those previously supplied. The price of Panchro Super Reversal will be found most attractive by amateurs who formerly did not use a "Super" film.

Albert Specialty Offers Micrograin "85" for Enlargements Up To 100 Diameters

GRAINLESS enlargements up to 100 diameters are possible with an unusual developer called "Micrograin 85", distributed by the Albert Specialty Company, 231 South Green Street, Chicago.

The results obtained with Micrograin "85" are possible because this product develops fine grain negatives by an entirely new and revolutionary principle—the only Physico-Chemical developer on the market today.

Micrograin comes ready mixed and requires no dilution. Does not deteriorate in developing and can be poured back into the bottle for reuse. One quart bottle of Micrograin "85" will develop 20 rolls of Leica film, 23 rolls of vest-pocket film, or the equivalent. Priced at 90c for a pint bottle and \$1.30 for a quart bottle, or write the Albert Specialty Company for an interesting 16-page booklet entitled, "The Story of Micrograin 85," by J. V. Mansfield, Ph. D.

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ROLLEICORD Ia Zeiss 4.5 latest	35.00
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Ideas On Tinting

A FREE BOOKLET, "Tell It With Titles," is available on request from the Besbee Products Corporation, Trenton, New Jersey. Good titles greatly improve any film, and the cine camera user will find in this booklet a lot of helpful information on titling. The contents include: General Rules for Titling, Regular Titles with Reversal Film, Typewritten Titles, Direct Positive Titles, Use of Photographic Backgrounds, Color Titles, Animation, Trick Titles. The Besbee Products Corp. market a variety of titling letters, so the above booklet is entirely practical.

Although intended especially for cine users, "still" camera users can also make practical use of titling letters—Christmas is near, and they would come in handy when making those personal greeting cards.

3 New Exposure Meters

THREE new exposure meters come to this country from abroad via American Bolex Company, American distributors of Bolex cameras and projectors and Purma cameras. Tempiphot, Horvex, and Eos are all characterized by a high range of sensitivity, and all three feature a novel, self contained calculator, set directly on



the light-value scale.

The Tempiphot has three ranges of sensitivity. For very poor light conditions, accurate readings are obtained by plugging in an auxiliary Tempiphot cell into the light gathering system.

This method of figuring the sensitivity range gives the Tempiphot meter an amazingly wide range. The scale shows exposure times from 1/3000 of a second to 8 full minutes, with all the intervals between. The Tempiphot comes in three models—Standard for regular work; Leica model for Leica; and the Cine model for moving pictures. Tempiphot meters are priced from \$21 to \$24.50; the amplifying unit at \$12.50.

The Horvex Exposure Meter is designed in somewhat similar fashion to the Tempiphot. Readings are taken in the same manner, and there are three stages of sensitivity that may be used. Under ordinary conditions the super-sensitive light gathering photo-cell is all but obscured by a protective "eye-lash" covering. For less intense light conditions, the cover in front of the cell is dropped on its hinge, and the full cell is exposed, light being fully gathered by a built-in reflecting mirror under the cell. For conditions of very little light, an auxiliary cell is plugged into the meter. Horvex for all-around work sells for \$21.50; Cine Model \$23.50; Model For Leica \$21.50; Auxiliary cell for General Model and Leica Horvex, \$12.50.

The third of the series of self-setting and automatic-reading exposure meters imported by American Bolex is the small Eos. The Eos is held in the hand, pointed toward the scene to be photographed. The dial on the face of the instrument is then turned till the emulsion rating is directly below the needle of the indicator. Now the associated pairs of shutter speeds and diaphragm openings are read off from the scales on the bottom half of the calculator dial. Simple and compact, the Eos indicates exposures from 1/1000 of a second to 2 minutes, from F1.5 to F22. The Eos sells for \$13.75.

These three new meters will be in dealers' hands by October 1st. All prices include leather case, and prices are subject to change. See these exposure meters at your dealer, or write for further information to American Bolex Company, Inc., 155 E. 44th St., New York City.

Pavelle To Vaporate All Film

PAVELLE LABORATORIES, Inc., a leading fine grain processing laboratory, announce an entirely new and exclusive service. Every film developed in these laboratories will also be treated with the Vaporate Film Treatment.

The Vaporate process has been used for years by the Hollywood studios for the protection of all film that passes through the big cameras. Now Pavelle Laboratories offer this treatment to the still camera amateur, as

a routine treatment with every roll of film processed with their fine grain developer.

Few amateurs realize why hardening of the emulsion is necessary. Gelatine is used as a carrier for sensitive silver salts in making negative emulsions because it is porous and allows developing solutions to reach the salts. It also permits water to get into the salts after development, to wash out developing chemicals. After development has been accomplished, the gelatine serves no useful function, and really should be changed from a porous material into an impervious state. The Vaporate treatment does this. Vaporated film will not gather moisture, water will not harm it, heat has little effect. Because the individual gelatine granules have been tanned by a vapor, the entire film is hardened so that it will resist scratches, but the negatives remain soft and pliable.

After a roll of negatives has been treated with the vaporate process, there is less tendency to formation of static changes on the surface. This of course eliminates a great deal of the dust evil. There is also some indication that migration of the grain after fixing is prevented by the action of the vapor on the gelatine. This is important, because tests have shown that grain will increase in size after development and unless the gelatine is fixed in some manner.

Pavelle Laboratories fine grain development, including the Peerless-Pavelle Vaporate Film Treatment, is 35c per roll.

For details of their complete photographic services, write to Pavelle Laboratories, Inc., 16 East 42nd Street, New York City.

New Optilite Enlarger

THE NEW OPTILITE enlarger recently announced by the Morin Mfg. Company of Holyoke, Mass., was designed to meet the increasing demand for a master photo enlarger which will eliminate all vibrations and assure accurate focusing. The Optilite was recently given unusual tests by professional photographers and produced a sharpness and clarity which definitely vied with the negative itself. It is precision made, and mounted, and features simplicity and ease of operation. It requires no special accessories, being equipped with every modern requirement advantageous to an enlarger.

The Morin Mfg. Company has developed a new combination film holder and mask. The holder grips the film by the edges only, and does not touch any part of the negative area which, of course, eliminates all possibility of scratches. There is no glass in the film holder, thus preventing collection of grit, dust and other foreign substances.

"Carnival of Cameras" Catalog

FOTOSHOP, Inc., 18 East 42nd Street, New York City, has just published and issued its latest bargain catalog listing still and motion picture cameras and equipment, lenses, supplies, etc. Bearing the title, "Carnival of Cameras," the catalog carries 48 pages of listings; many original cartoons adding greatly to its appeal and interest. A handy film rating chart appears at the end of the catalog.

All camera fans are invited to write for a copy. They will enjoy its unique makeup.

Prizes Go Begging

THE Synchronized Flash Contest sponsored by the Abbey Corporation is not drawing a sufficient number of entries, nor is the quality of the work submitted nearly as good as was expected. With here and there an outstanding shot, the majority of the pictures submitted have neither the originality, human interest, or novelty which the Abbey Flashgun makers are seeking.

A total of \$225.00 in cash and merchandise prizes, which was first announced in June of this year, will go to a more or less ordinary synchronized flash picture, unless more photographers take advantage of this opportunity to submit their work.

For the sake of those who are unfamiliar with this contest, it should be repeated that this is not a competition which is intended to promote the sales of the Abbey products, but is rather a means adopted by this organization to gather material for a library of outstanding synchronized flash work. Because of the foregoing, a contestant does not have to use an Abbey Flashgun in order to win a prize.

The contest, which closes October 15, 1938, is described fully in a special circular and letter which can be obtained by writing to the Abbey Corporation, 305 E. 45th St., New York City.



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LEARN EASILY AT HOME BY ACTUALLY DOING—YOU NEED NO EXPERIENCE. You learn by doing. And you can earn many a dollar even while you learn! Tasope's trains you for a good job with newspapers, magazines, studios—or you can work for yourself. Most modern practices. Latest techniques. Thorough training by a foremost authority, in NATURAL COLOR PHOTOGRAPHY! Covers use of all popular cameras—Eastman, Leica, Graflex, Contax, Speed Graphic and others. Only trained camera men are your instructors—men whose pictures appear in today's best publications and are exhibited in famous salons here and abroad. "Rip" McMurtry was recently paid \$215.00 for fifteen minutes work with his candid camera!

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\$50 Kalart Contest

THE KALART PRESS SPEED FLASH, a built-in mechanical synchronizer for the Speed Graphic camera, has automatic cushioned action, finger tip release from camera bed, combination reflector and battery case in single unit, weighs one pound, adjustable reflector, lamp ejector, three standard single cell batteries, batteries will last at least six months, multiple lamp connector, remote lighting, two positions for reflector.

Kalart will pay \$50 for the best opinion, favorable or otherwise. Willard Morgan, former editor of *Life* Magazine, will be the final judge of the "best opinion."

"A to Z" Tinting Chart

A NEW IDEA, offering a fresh approach to an old problem, is welcomed by the movie tinting field. Since the introduction of the "A to Z" Artistic Movie Tinting Charts, the tinting problem has been greatly simplified for thousands of amateur movie fans.

Without art training one can easily trace or copy from hundreds of styles of beautiful, modern script lettering in various sizes. The alphabets are the kind used by Hollywood and leading film companies.

Complete instructions accompanying the books also show how illustrations can easily be included in the titles, thus giving the title a professional effect. These charts offer such a wide choice—and opportunity individual preference—that each cinematographer creates his own title, different from other users of the charts.

These charts, designed by leading New York artists, have been assembled in two spiral-bound books and are published by Jacob Stein, 175 Fifth Avenue, New York. Both books together are \$2.00.

Flexible Rubber Shade

THE KEMPSHADE is a flexible rubber shade economically priced that comes in five sizes to fit all lens diameters from 22 mm. to 42 mm. Over two hundred popular cameras come within these limits.

The Kempshade can be used not only as a lens shade but also as a filter holder. It is designed to hold any circular unmounted glass filter. A specially moulded lip holds the filter securely. The friction grip snaps easily onto the lens and will not scratch, mar, or chip lens mount or filter. The Kempshade lists at only 75c.

Manufactured by the Kemp Camera Supply Co., 127 West Main St., Alhambra, California.

New Stainless Steel Photographic Developing Trays

A NEW LINE of photographic trays for developers and hypo fixing baths, made of Enduro stainless steel, has been announced by the Columbian Enameling & Stamping Co., Inc., Terre Haute, Ind. Said to offer a lifetime of service, the developing trays are available in three convenient sizes, and for hypo fixing baths in one size.

The developing trays, equipped with a formed pouring lip, will accommodate the three generally used sizes of paper and plates, 8x10-in., 11x14-in., and 16-20-in. The No. 170 Hypo fixing bath trays are made to accommodate all papers and plates up to 11x14-in. in size. Both developing trays and fixing bath trays are drawn, seamless shapes made to government specifications.

Fabricated from special Enduro SMO stainless steel (No. 316 analysis), which has been found most acceptable for all types of photographic developing work, these products will, it is claimed, save many dollars in replacements and assure uninterrupted production. Further information about this new addition to the Cesco line of porcelain enameled developing equipment may be obtained by writing the Columbian Enameling & Stamping Co., Inc., Terre Haute, Ind.

New Folding Roll Film Camera Announced

PHOTO UTILITIES, Inc., 10 West 33rd Street, New York City, has recently announced and placed upon the market the Utילו camera, certain to appeal to many camera-minded individuals.

Measuring 1 1/2 x 6 1/2 x 2 1/2 inches and weighing 21 ounces, the Utילו is of the conventional folding roll film type, producing eight 2 1/4 x 3 1/4 inch negatives on a roll of standard 120 or B-2 film.

A direct vision frame finder, as well as a brilliant reflecting finder are fitted to the Utילו, enabling the user to hold the camera at either waist or eye level.

The famous Meyer Trioplan f4.5 10 cm. focus lens is fitted to the Utילו as standard equipment. Focus is

obtained by turning the knurled front lens collar which is calibrated for from five to forty feet and infinity. A choice of shutter is available on the Utilo. The \$18.00 model is fitted with the Prontor II shutter, which not only has delayed action, but gives a range of speeds of from 1 to 1/150th second, including time and bulb settings. \$15.00 model is equipped with the Vario shutter, which carries speeds of 1/25th to 1/100th second in addition to time and bulb.

In both models the shutter calibrations are engraved not only on the upper face of the shutter mount, but also on the upper rim, thus enabling the user to set his speeds without the necessity of turning the camera to read the calibrations on the front face.

The Utilo is an ideal instrument for everyone. It is simple enough for a child to handle successfully and flexible enough for the experienced amateur to get the sort of pictures he wants. It is sturdy enough to become a popular "second" camera, or "knock-about" camera for hunting and camp trips.

Complete details and literature may be secured by writing Joseph Bing of Photo Utilities, Inc.

Newest S. S. Dolly Has a Built-In Exposure Meter and Built-in Range Finder

BURLEIGH BROOKS, Inc., of 127 West 42nd Street, New York City, announces a new model Super Sport Dolly which, in addition to a most dependable built-in range finder of the split-image type, will have a visual type of built-in exposure meter. It is available with Schneider Xenar and Zeiss Tessar f/2.8 lenses in regular Compur delayed-action shutters with speeds from one second to 1/250, as well as in Compur Rapid shutters, with speeds up to 1/400. Limited quantities of this new model are now ready for distribution and will sell for exactly the same prices as the regular S. S. Dolly, with built-in range finder, which lists as follows:

With Schneider Xenar f/2.8 in Regular Compur delayed-action shutter, speeds up to 1/250.....\$65.00
With Schneider Xenar f/2.8 in Compur Rapid delayed-action shutter, speeds up to 1/400..... 70.00
With Zeiss Tessar f/2.8 in Regular Compur delayed-action shutter, speeds up to 1/250..... 77.50
With Zeiss Tessar f/2.8 in Compur Rapid delayed-action shutter, speeds up to 1/400..... 82.50
These cameras, as you may know, make either sixteen pictures 1 7/8x2 1/4" or twelve pictures in the popular 2 1/4x2 1/4" size, using regular No. 120 film.

New 7-Section Brooks Pocket Tripod Is Light, Sturdy and Compact

THE latest addition to the popular Burleigh Brooks line of pocket tripods is a seven-section telescoping model weighing ten ounces. When closed, it is 10 1/4-inches long; extended, it measures 46-inches.

The ideal combination of lightness and rigidity is made possible by the aluminum and steel alloy used, and by the excellent workmanship employed in its construction. Each leg telescopes completely, in one simple movement, with a master release catch on the top section.

By telescoping one section at a time, (each has its own release catch,) the new Brooks Pocket Tripod can be adjusted to any height desired. The top section is neatly finished in black enamel. It should prove to be a very popular seller at its low price which (without case), is only \$7.00.

Blue-Black Tones

FOR blue-black print tones, "nitrazine" now may be used in paper developers to supplant the usual potassium bromide.

Nitrazine is used in 1% solution, and is added directly to an ordinary metal hydroquinone developer which has been made up without bromide. The Nitrazine restrains fog and prevents staining, and allows the production of cold bluish black tones on papers which naturally tend to give greenish tones with the ordinary M. Q. developers. It should be useful to those who desire blue-black tones on such papers as Illustrator's Special and Haloid Induspro.

Nitrazine is recommended for copy processes because of the cold, dense blacks and clear whites that can be obtained. One ounce is sufficient for 10 to 40 gallons of developer. The price is \$1.25 per oz., obtainable from Edwal Laboratories, 732 Federal St., Chicago, Ill.



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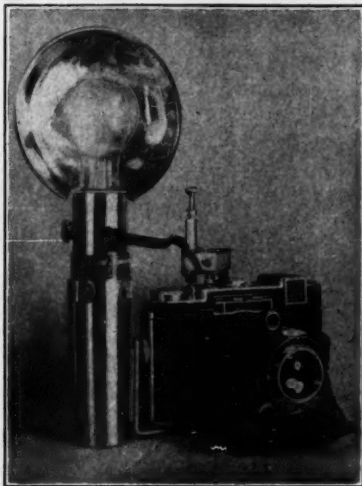
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Each Jiffy kit contains 18 Jiffy aluminum binders, 36 silvered masks and 36 fine quality thin cover glasses. Everything necessary for effectively framing 18 slides, price \$1.50.

Jiffy slide binders are made in the U. S. A. and the sole distributors are the Mimosa American Corporation, 485 Fifth Avenue, New York City.

Negative Drying Rack

THE SI-MI negative Dri-Rak facilitates the wiping and drying of all roll film and also permits easy inspection of negatives while wet.

The Dri-Rak is an adjustable metal holder, for all films from the 127 to 116 size. It sells for 50 cents. An extension to provide for the holding of a 36 exposure 35 mm. roll is 15 cents additional.

Si-Mi Lintless Wipettes and Wipette Tongs are a new film wiping accessory to assure negatives free from scratches or drying spots. Perfect negative drying is an important step toward perfect negatives, which careful darkroom workers do not neglect. Lintless Wipettes and Wipette Tongs are a convenient and practical solution to the problem of what to use.

A set of the tongs with fillers sells for 85 cents, and 36 refills are obtainable for 50 cents, from the Sixteen Millimeter Sound Films, Inc., 78 Broadway, Boston, Mass.

Printometer

AN EXPOSURE METER for gauging correct exposure for enlargements is the secret desire of every serious darkroom worker. Such a device should not only be accurate but simple and rapid in use.

The new Micro-Lite Printometer is used on the projection easel or contact printer to measure the printing value of transmitted light. It operates on the principle of visually matching a known light intensity with an unknown intensity. In this way, correct printing time is given.

The question of what contrast of paper to use also is answered by the Printometer. This is accomplished by measuring the intensity of one of the highlights and one of the shadows. This gives the contrast range of the negative.

For more information about the Micro-Lite Printometer write Research Engineering Co., 310 S. Michigan Ave., Chicago, Ill.

Protect Film

PROTECT your negatives with "Protecto" against scratches, fingermarks and other blemishes that make good prints impossible. Protecto leaves a flexible glass-like coating which becomes a part of the celluloid film. It is waterproof, will not peel nor crack, nor shrink negatives, thereby greatly prolonging the life of film. It is especially useful for miniature negatives. Protecto is distributed on the West Coast by Seamans, Inc., Hollywood, California.

Gamma "D" Developer

THE RESULT of more than a year's work by William Mortensen and Dr. Albert Doran, Gamma 'D' Atomic fine grain developer offers five outstanding advantages, (1) fine grain and high resolving power, (2) long gradation range, (3) shadow detail, (4) long life, (5) is non-toxic.

Gamma 'D' Atomic is especially recommended for small negatives, and for larger negatives, Gamma 'D' Universal developer.

The Mortensen texture matrix has recently been made available to amateurs at the reduced price of \$10.

For more information about the above products, write to Oxford Products Company, Dept. M., Beverly Hills, California.

Film Rating Sheet

A NEW FILM speed rating sheet has been issued by the Weston Electric Instrument Corp., with revised ratings for all popular films.

According to the new ratings, many films now may be exposed as much as twice the previous film speed. Some

lum ratings remained unchanged, and to a few films tentative values have been given. These are sufficiently accurate for practical purposes but are subject to slight change after further tests.

The new rating sheet may be obtained from photographic dealers.

Ampro Sound on Film Projector

FIVE TIMES the brilliance of the ordinary 750 watt projector is now available with the new 16 mm. Ampro Arc Sound-on-Film Projector.

A deluxe unit for 16 mm. amateur sound films, it operates on alternating current, has a film capacity of 1600 feet and a large output amplifier providing 40 watts of undistorted volume.

Illumination is furnished by a high intensity arc lamp with automatic carbon feeding. The carbons with a minimum capacity of 30 amperes at 28 volts provide an hour of uninterrupted screen illumination at not less than 650 lumens. A rectifier provides current of adequate capacity for proper operation of the arc. There are two torpedo speakers with tripod stands so that full use of directional tone quality may be obtained.

The projection sound head and amplifier features are the same as those employed in the standard model "L". The weight of the lamp house and projector unit is 79 pounds; rectifier, 89 pounds; amplifier, 30 pounds; two torpedo speakers with tripod stands, 62 pounds; projector stand, 20 pounds.

For detailed information, prices or demonstration, write the Ampro Corporation, 2839 North Western Avenue, Chicago, Illinois.

Graphic Auto Pics Needed

PHOTOGRAPHS depicting the influence of the automobile upon the American scene are wanted by the Automobile Manufacturers Association. Amateur pictures which qualify from the standpoint of simplicity and graphic values will be accepted at going rates for comparable professional work; prompt acceptance or return of unused prints assured.

The object is to associate the motor vehicle with its many uses, and in pictures which write their own captions. They may show people alone or in crowds, at work or at play, at home or any place at all within the United States; but they must show the relation between the person, the vehicle—or some part of it—and the occupation of the moment.

Sequences of not more than five pictures, if necessary to describe action or progress, will receive special attention. Panoramas, "arty" effects and elaborate compositions are "out."

Scenes in town, village, country, on the farm or at the mill, factory or job, are greatly desired, if the association with the vehicle is obvious and contains the elements of action and story.

Authentic contrasts of the old and new in highways transportation are especially desirable.

Contributions should be mailed to, Public Relations Department, Automobile Manufacturers Association, 366 Madison Avenue, New York City.

(Product identification should play no part in the above pictures. Graphic prints having an obvious slant on any recognizable product should be offered direct to the advertising department of the individual manufacturer, who will often pay well.)



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With your MINICAM

How Jim Met

THE BUSINESS PRESS

By PAULINE REDMOND

Jim stepped from the elevator into the lobby of Stoneville's new apartment hotel in a "state of mind."

"Good morning," from Pete Lowry, the clerk who had gone to school with Jim.

"What's good about it?"

"Well, sour puss, why the grouch?"

"Bills, bills, nothing but bills. They never stop. I've got to find a way to make more money."

"Funny, Jim, I was thinking the same thing. And I'm doing something about it. Here, wait a minute, I'm going down the street. Let's go along together." A few complaints later, he interrupted Jim's tirade with, "Notice the new front on Blayne's Hardware Store?"

"No, why should I? Got enough troubles of my own to worry about."

"You knew I'd gone in for amateur photography, didn't you, fella?"

"Is that so? How come? Too much time on your hands, or too much money so you have to spend some of it on a hobby?"

"Don't be sarcastic, young man. I need some extra pennies the same as you do—baby, you know, special milk, added expense, etc.—and that's—how I'm going to make them."

"Exactly what are you talking about, Pete? How does the new front on the hardware store, your picture taking hobby, and the baby expense tie in?"

"Here's the answer. The new front on the hardware store and the extra pennies are synonymous, my fine friend. I'm taking a new interest in the other fellow's business—and together with my mania for taking pictures, I'm going to make it pay dividends."

"I'll bite. When do we start? I'm something of a camera fan myself, you know. But it costs money."

So Pete told Jim the little he knew. He had been browsing in the library and had run across a hardware magazine. It proved interesting, mostly because of the photographs used as illustrations. But upon reading further, Pete became interested in the stories behind the pictures. "The Fleeger Hardware Beats the Depression with a Remodeling Program." "Crowley's Hardware Changes Front and Increases

Business." Each story was profusely illustrated, showing the points in the remodeling program that differed from ordinary jobs.

Furthermore, Pete began to realize for the first time how interesting the hardware business must be. Real problems, understandable, too, for most everything a hardware dealer has for sale, interests Pete. Chinaware, electrical appliances, tools, pots and pans, gardenware, sporting goods, even tractors. Pete would like a place in the country. He read longingly of how a hardware merchant in Peoria conducted a contest, the prize a beautiful lawn mower. All the details of how that merchant put on his contest were given, even to a picture of customers grouped inside the store to hear a lecture on gardening.

The Experiment

Next day Pete talked to Mr. Blayne and had an interesting half hour. He found that business had picked up for him as a direct result of the remodeling job. He was glad to let Pete use his camera in the store, because Pete showed interest in what he (Mr. Blayne) was trying to accomplish. He even became enthusiastic over some of the arrangements of merchandise that Mr. Blayne pointed out to him. Pete was excited by now; film and developing would amount to less than a dollar, so he exposed a whole roll.

He'd learned a lot and had the most interesting time in many a moon. What surprised Pete most was the eagerness with which Mr. Blayne talked to him. Pete didn't know anything about selling merchandise from a store, but he did show real interest. That was why Mr. Blayne became so expansive; it was nice to have an audience interested in his ideas.

"Do you read that hardware magazine I saw in the library, Mr. Blayne?" Pete asked.

"Sure, it's a fine magazine. Those fellows are too busy, though, to get way out here to talk to us. And we have ideas of our own sometimes."

Privately, then, Pete decided to put Mr. Blayne and his ideas into the magazine pages, if he possibly could. He was new at this kind of photographic work, but he knew just the things Mr. Blayne was trying to do, and maybe he could emphasize them in the pictures.

The Order

A few days later the skeptical Jim asked how all the little extra pennies were coming along. "Did you make the big-time with your artistic shots of the opulent Mr. Blayne?"

"Well, Jim, you may be surprised, but I did do just that. I took a whole roll of film and sent in six pictures. And here is a letter, accepting five of them! I'm sunk, at that, for the editor wants me to write a story about

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Blayne's methods of merchandising and I've never written a line in my life!"

The experiment that cost less than a dollar would bring Pete at least \$5. And if Pete decided to try his hand at giving some of the facts in the enthhsastic way Mr. Blayne told them to him, he would make a few dollars more.

Has your camera been presented to business? Does it have a nose for the kind of shot that are in demand by editors of business papers? Do you know what kind of pictures would be appropriate? Do you know who reads the business papers and what they want to see in pictures? Do you know that business paper editors want more and more pictures, that they are having a difficult time getting them, and that there is money to be made in this field?

There are 1600 business periodicals and most of them are using more pictures as the months go by. The trend of the times is noted in this field as well as in others. Some formats have been changed completely so as to be considered tabloids and of course tabloids wouldn't be tabloids without plenty of picture material.

First learn something of the markets, and their needs. Then, even with a small camera, in a small city, you can pick up extra dollars with your work.

A list of trade paper markets and specific data as to the photographic material they desire will be presented in a forthcoming article.



• " . . . I am looking pleasant!"

Changing Partly Exposed Roll of Film

WHAT to do if your minicam is loaded with a partly shot roll of color film and you want to take some night shots requiring the use of fast pan?

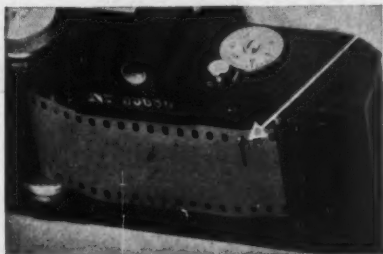
Or maybe you're loaded with a fast emulsion and you suddenly find you need the finest possible grain for an extra big enlargement.

It's a very simple matter to switch films without waiting until an entire roll has been exposed—if you use the right system in loading. At present I have four partly exposed rolls on different emulsions, and when they're completed and developed there'll be no overlapping negatives, double exposures, or blank frames.

When you load a new film into your camera always set your exposure counter at the same point and scratch a mark on the leader of the film so that you'll know *exactly* where to start it again if you have occasion to remove it before all 36 exposures have been made.

Because the mechanisms of the various minicams differ somewhat, you'll have to work out the technique which is best suited to your camera. With my Argus I set the exposure counter at 34, thread the leader onto the take-up shaft, and then scratch a mark on the film alongside the sprocket hole which fits over the projecting tooth. When the camera back is in place I wind it up to No. 1 and start shooting.

If I want to remove that film, to use the camera in my enlarger or to replace it with a different emulsion, I make a note of the number of exposures already taken, then wind the exposed portion back into the cartridge, taking care to stop turning as soon as the counter ceases to move so that the leader won't be drawn inside the cartridge. I number each roll consecutively before I load it, writing it on the emulsion side of the leader with



a soft pencil. In that way I run no risk of confusing films if I have several partly exposed at the same time.

When I'm ready to reload that particular film I set the counter at 34 again, thread the leader into the winding shaft, fit the marked sprocket hole over the same projecting tooth, replace the camera back, refer to my notes to see how many exposures had been taken on that roll, wind off that many exposures, and proceed to shoot.

It's as simple as that—practically fool-proof if you follow directions and don't get your

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films mixed up while they're out of the camera. And you won't do that if you have each one numbered and refer to your notes before you reload.

It's unnecessary to pass up good shots just because you have the wrong film in the camera, or to take them on the wrong emulsion. Keep several grades on hand and switch them in and out as needed.—*Bruce Cole*.

Marking Negatives With Tape

After examining contact prints, or the miniature negative itself, to decide which should be enlarged, some method of marking the film should be employed to insure the proper negative being used.

A common method is to cut a notch in the side of the film, but then there is always the danger of the cut tearing and thus ruining a valuable negative.

The safe method of marking the desired negative used by the writer is to cut a piece of ordinary adhesive or Scotch tape and sticking the piece on the edge of the film alongside the particular negative to be enlarged. The tape stays on permanently, is easily removed if desired, and quickly and positively identifies the desired negative in the dim light of the dark-room.

Copying Without Negatives



Flat objects may be copied by printing directly from them without the use of a negative. This may be done either by contact printing or in an enlarger.

A document printed on one side, like a model release, for example, can be used as if it were a negative. The resulting print will show some paper grain, of course, but will be an accurate copy. Any like flat object can be copied directly this way.

The above illustration, an enlargement of a Cicada's wing, was made by merely putting the wing between the two glasses of the enlarger, and projecting the image on a sheet of contrast bromide paper. Butterfly wings, feathers, chemical crystals formed on glass, "photos" of different textured cloths, all are as easily made by the same process. The resulting photograph, of course, in each case is a negative image.

Tripod Tilting



It is sometimes desirable to tilt a camera on a tripod more than can be done ordinarily without the use of a tilting top attachment.

One way to do this is to put the front leg of the tripod back through the back legs. This gives considerably more tilt than can otherwise be obtained. To shoot downward it is necessary only to reverse the camera on the tripod.

Developer Jars

No darkroom ever has too many air-tight containers for developers, etc. Old mayonnaise jars, and similar containers can be easily adapted to such use. Simply remove the waxed paper or waxed card with which the screw cap is lined. After making sure that the cap is clean and dry lay it upside down, as nearly level as possible and pour into it enough melted paraffin to cover the bottom to a depth of one-eighth or three-sixteenths of an inch. In use, the edge of the jar will cut itself a groove in the paraffin and form a perfect seal. The paraffin is unaffected by any of the solutions normally used in the darkroom.

Centering Bulb

To center one of the "baby" flash bulbs in front of the synchronizer's reflector, a "three way" socket is screwed into the synchronizer and the bulb put into the socket.



Lens Shade



● A strip of paper tape makes a temporary lens shade.

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Quartz Crystals FOR LENSES

One of the largest and finest quartz crystals ever to enter the United States went into the vaults of the Bausch & Lomb Optical Co. this week. Coming from the Province of Minas Geraes in Brazil, where it was brought by mule pack from the diamond section of the Serra da Mantiqueira range, 1,500 miles from the coast, the huge crystal weighs sixty-three pounds and costs \$18.00 per pound. Based on optical quality, experts believe that it surpasses any museum piece of this type in the country.

Although quartz, a form of silica occurring in hexagonal crystals, is distributed throughout the world, no deposits of suitable optical quality have been found in the United States. Brazil is the chief source of supply.



The crystal is solid matter in its most perfectly developed and naturally organized condition. Its exterior is characterized by a form of extraordinarily regular geometrical design. The internal structure is, likewise, so regular, that the arrangements of the structural units, or chemical molecules, is precisely the same about one point as every other point.

"If the growth of the crystal has been slow, undisturbed, and unrestricted in all directions," says Fred C. Brueck, who has studied optical minerals for 25 years, "its external shape is that of a closed solid, the surface of which is entirely made up of numerous plane facets, or 'faces,' meeting in straight edges, brilliantly smooth, as if highly polished. The arrangement of these facets, measured by their mutual inclinations, is characteristic of each crystal. Frequently," says Brueck, "the facets are not only truly plane, but as highly polished as though done by a jeweler's lapidary."

Light is reflected and refracted through the crystal. Viewed in sunlight or bright artificial light, the scintillation of spectrum-colored rays shows the beautiful properties of transparent crystal.

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Quartz is a uniaxial crystal—one with two different directions of refractive index—and the interference colors may be brought about by the phase difference in various wavelengths of light. The crystal may absorb part of the components of white light, producing a definite color, which not only gives color to the mineral, but also modifies the tone of interference colors by removing from white light the components absorbed by the crystal.

Since the phase difference between extraordinary and ordinary rays emerging from a uniaxial crystal depends on the length of path traversed—thickness of the quartz plate—and on the relative velocities of the two rays, and the relative velocities depend upon the character of the crystal and the direction in which the plate is cut from it, the interference colors is related to the thickness of the plate. If the plate is not uniformly thick, it will show interference colors in different places.

"Crystals are frequently found," says Brueck, "which are obviously of a composite character, or composed of more than a single crystal of the same substance, in which there are two, or even three, parts belonging to separate crystals, although they are united in a definite and regular manner. Their twin nature is often betrayed by the presence of what are known as 're-entrant angles,' forming notches, arrowhead shapes, knee shapes and cruciform, or heart shapes. Frequently two or more individual crystals are so intimately blended that the appearance at first sight is that of a single individual crystal, a crystal of a higher degree of symmetry than a single crystal."

Brazilian crystals are characterized by a peculiar kind of interpenetration "twinning," Brueck explains, as he examines a slab of quartz under his polarizing microscope. "There are two different crystals in this one block. One piece has a right-handed movement like a clock, while the other has a left-handed movement, counter-clockwise. The interpenetration here is but partial and the twin has the appearance of a mirror-image, or reflection twin."

It is Brueck's job to determine the optical axis of the crystal before it is cut, to detect flaws, and to extract the greatest proportion of usable crystal from the material. To do this, he uses plane polarized light, vibrating in a straight line, or circularly polarized light which vibrates in a circle, because the character of the crystal is more easily detected than in ordinary light. Quartz crystals exhibit among other things, one set of concentric colored circles, with a dark maltese cross extending across the field.

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- Theatre lobbies furnish impressive subject matter. Use pan film, rest the camera on a table or other handy support and allow 1 minute at f5.6, or longer. When taking a "candid" shots at long exposures, you can employ court-room photographers' technique. This is to open shutter and continue the exposure as long as possible or until subject begins to move and then close shutter, terminating the exposure.

Theater interiors with their winding stairs, balconies, and chandeliers are photogenic meat for the amateur, nor do they require a fast lens.

Exposures of from 2 to 5 minutes at f8 with the camera resting on a table will give excellent results. Any people moving around in the scene during such an exposure will not register on the film. With faster lenses, exposures of 1 to 5 seconds will suffice.

In composing your picture, you can



● Snapshot of movie audience taken by resting camera on chair arm. Foth Derby camera, S. S. Pan film, exposure 1 minute at f/2.5. The chief source of light was that reflected from the screen. Theatre audiences when enthralled by a movie, remain quiet for relatively long periods of time.

pose the companion admiring a painting, looking down from a balcony, or reading a program. Posing the girl friend in the foreground will give depth to your picture. Posed in the background, she will serve as a comparison to her enormous sur-

roundings. Be sure you have a firm support for the camera. Use the speediest available film. Next time you go to the movies, take your minicam and you'll probably be reluctant to see the movie. But when you do take your place in the audience, you can take snapshots of the screen (exposure of about 1/10th second with camera resting on seat back; lens at maximum opening) and also candid snapshots of your fellow theatre goers.—
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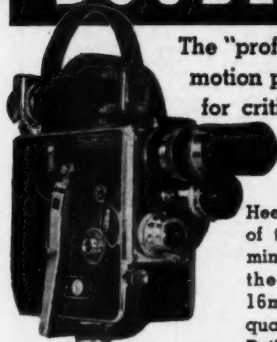
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??? QUESTIONS ???
to the Editor

Q. What is the formula for the Boric Acid
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described in July MINICAM?

Ans. The following gives the avoirdupois
and teaspoon quantities. "T" means 1 level
tablespoon and "t" teaspoon.

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Water	20 oz.	40 T
Hypo, pea crystal	8 oz.	14 T
Sodium Sulphite, des.	1/2 oz.	2 t
Acetic Acid, 28%	1 1/2 fluid oz.	3 T
Boric Acid, crystals	1/4 oz.	1 1/4 t
Potassium alum.	1/2 oz.	1 T
Water to make	32 oz.	1 qt.

Dissolve in the order given, making sure that
each chemical is dissolved before the next is
added.

Q. Negative streaks ruin almost every roll
of 35 mm. film which is developed in my ad-
justable film tank, but this trouble never occurs
when larger sizes are developed. Does this mean
that the tank is not suitable for 35 mm. film?

Ans. Streaks such as you describe may re-
sult from lack of agitation and 35 mm. film,
because of the sprocket holes, is more likely
to become streaked when not agitated at regu-
lar intervals during development. Agitate about
a dozen times, thus if development time is 24
minutes, agitate every two minutes.

Q. How can trays, film clips, hands, etc.,
be cleaned of developer stains?

Ans. To clean developer hangers and clips,
immerse in the following: 1 pint 28% acetic
acid, 3 pints water. Soak for an hour and
scrub in clear water.

For tray cleaner, the following will remove
brown oxidation stains and some dye stains:

Water	32 ounces
Potassium Bichromate	3 ounces
Sulphuric Acid, C.P.	3 fluid ounces

Pour a small quantity of the solution into
the tray to be cleaned and agitate until it
reaches all parts of the tray. Pour out and rinse
tray with several changes of water.

To remove stains from the hands, use the
following:

SOLUTION 1

Potassium Permanganate	1/4 oz.
Water	32 oz.

SOLUTION 2

Sodium Bisulphite	16 oz.
Water	32 oz.

Rub with a few drops of Solution 1 and
rinse with Solution 2 which will dissolve the
stains. Then wash thoroughly with water.

Developer stains also are removable with
lemon juice.

Cinécam

TEMPO EDITING

It's in the cutting room that the pace is set for any cine story. Four film-editing steps

By HERBERT C. MCKAY, F. R. P. S.

IN music, as in movies, tempo is part of the expression. "Presto," says the composer, or "lentissimo," and the pace is set.

In a cinema story, tempo varies more often and more rapidly than in any musical score, but the principle involved is the same. The story may move in the slow "largo" mood of description, or the "prestissimo con fuoco" of a breath-taking climax—all at the will and discretion of the film editor.

● As in viewing a film strip, read from bottom upward.

It is in the cutting room that a film has breathed into it this pace and timing that finally determines its success or failure. Without tempo—edited in to conform with the narrative—the result is not a cinema but a reel of celluloid, a

series of snapshots, at best, that could better have been taken with a still camera.

Film editing may roughly be divided into four steps called (1) *Rough Cutting*, or removing defective frames, (2) *Sequence Cutting*, which consists of placing all shots in proper order, (3) *Dramatic Cutting*, for the purposes of narration, and (4) *Tempo Cutting*, for speeding up or slowing down the general pace of the picture or any part of it. When a man can do all four, he is by way of becoming a film editor.

Because editing really starts with the shooting, two

INCORRECT

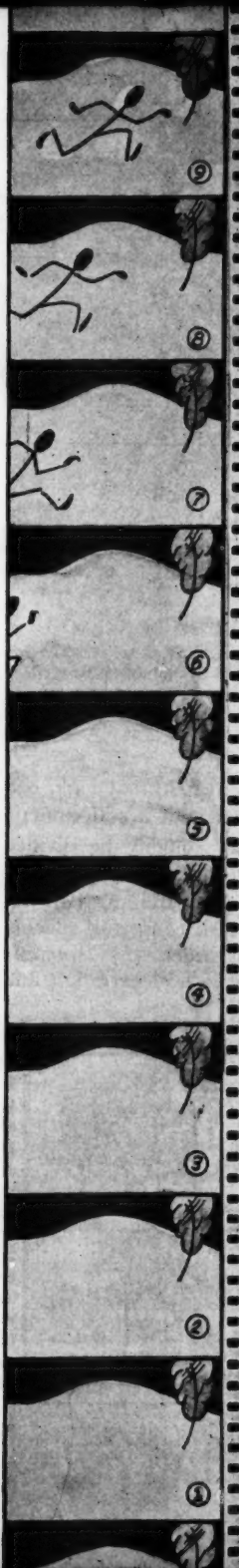


● As in viewing a film strip, read from bottom upward.

CORRECT



● When editing for closeups, cut from medium shot when the frames show the same action. Fig. 2



STROLLING-ACTION ENTRANCE—CUT 4 to 6 frames before entrance
 MODERATELY-SLOW-ACTION ENTRANCE—CUT 3 frames before entrance
 NORMAL-ACTION ENTRANCE—CUT 1 frame before entrance
 RAPID-ACTION ENTRANCE—HIGH-SPEED

TEMPO ENTRANCES
 (Read up)

points must be emphasized. Hundreds of amateur and professional producers have tried to violate them—not a single one has succeeded.

You cannot make a good picture if it is shot in sequence.

You cannot get a hundred feet of film by exposing a hundred feet.

For example, if you wish to lead a scene from long shot to medium and from medium to closeup, you cannot do a smooth job if you try to shoot it in that order. Changes will be abrupt, and the film will be jumpy—and smoothness is an essential characteristic of a good film.

Shoot the long shot all the way through; repeat the action for the medium shot and repeat it again for the closeup. Even with strangers and in travel films you can usually arrange one repeat for closeups. In the case of parades, reviews and other things which do not repeat, collaborate with another cameraman. Shoot with one lens while he uses another and you exchange shots. Get duplicate prints and each of you will have a *complete* film.

As for the second point, you must expose more than you expect to use. A director of educational films, recently talking to the writer, said, "It costs us twenty-eight cents a foot for raw stock alone!" Now everyone knows that raw stock costs four cents a foot. What the director meant was that he exposed seven feet of film, on the average, to obtain one usable foot. This same director told of a scene made in Florida which had to be remade. A crew was sent down, and 3,800 feet of film exposed to get this 400 feet of replacement.

Non-professional work is less critical, but it is a good practice to use two spools to get one final reel.

As for the actual editing. When a film is returned from the laboratory, project it as is. Note the jumps and flashes. Then put the film in the *editor*. (Any pair of rewinds and viewing device will do. Some very inexpensive editing devices are available and they are indispensable.) Go through the film slowly. Every time a spoiled frame or sequence of frames ap-

pears, cut it out! Fasten the film ends together with small paper clips.

When the spool is completed, work backward and splice the film at each cut. Project it again, and it will be vastly improved. If the film is of average quality, you will have shortened it by about four or five feet. If you have lost a shot or two by poor focusing or some such accident, your wastebasket footage may jump to ten or fifteen.

Next come sequence cutting. Suppose you have staged a scene in which a young man is walking on the beach with his lady love. They stop and talk and suddenly he kisses her. You shoot the whole thing first. Then you get up to frame their heads and shoulders and shoot the sequence, stopping just when he kisses her, then you move in to make a big closeup of the clinch.

In cutting, remove the medium shot and the closeup. Now examine the long shot carefully. They stop, and start to talk. Study each frame and find the one which most closely resembles the beginning of the medium shot as to head angles, pose and so on. Examine the first foot of the medium shot the same way and find a to match the long shot. Cut there and clip the film together.

Now look at the kissing scene in the medium shot. Compare it with the closeup. Find two matching frames and cut there. See Fig. 2, and note that in both frames the subjects' heads are together.

After the closeup don't tag on all the rest of the medium shot, because it repeats the clinch. To keep it may be good economics but poor cinematics. Locate the end of the clinch in the medium shot, match frames again and *cut out and discard* the intermediate footage of medium shot. Repeat the same thing with the cut from the medium shot back to long shot. When you are through you will have a sequence of five shots: long, medium, closeup, medium and long. If you have done your work well your spectators will hardly be conscious of the change from shot to shot.

Warning! Do not try to save footage by

TEMPO EXITS (Read up)

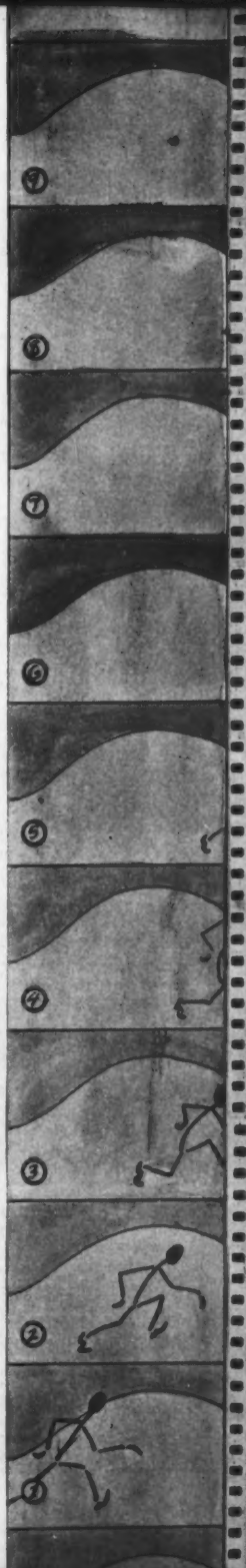
HIGH-SPEED ACTION EXIT

RAPID-ACTION EXIT—CUT as figure leaves screen

NORMAL-ACTION EXIT—CUT 1 frame after exit

MODERATELY-SLOW-ACTION EXIT—CUT 3 frames after exit

STROLLING-ACTION EXIT—CUT 4 to 6 frames after exit



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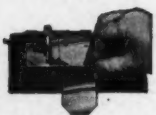
1. Insert Film



2. Cut



3. Scrape



4. Splice

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eliminating the clinch when making the medium and long shots. Your actors will not be able to carry through properly and you will find it practically impossible to match frames for splicing. However, you may stop the camera as soon as the clinch starts, but do not let the actors know this.

In making a sequence which follows an actor from location to location remember to have the actor move in one direction when off the screen. This means that if an actor exits at the right, his next entrance should be from the left. If he exits by going away from the camera, he should re-enter from the distance coming toward the camera. See Figs. 5 and 6. Exceptions should always be covered by titles.

(Page 112, please)



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HOW TO PAN

Whether in a film play, sport event or commonplace record shot, the principles of panorama remain the same.

By HAROLD HART

THE panorama is one of the most widely used—and abused—devices in amateur movie making.

Most frequently, it is used for scenic views to furnish the long-shots—the introductory bird's eye impressions before the closer shots.

In this capacity, the cine pan is not much more effective than a still picture. Where the cine pan comes into its own is in *following action*. The action pan follows a moving subject, whether a soaring bird, a pedestrian, an automobile or an army on the march. The subject, throughout the pan shot, remains in the same relative position in the frame. The use of hair lines on the viewfinder is an important aid to maintaining the moving subject on the same part of the frame while the camera swings slowly.

A hand-held panorama is entirely feasible for a long shot where a little unsharpness is not objectionable. Hold the camera rigidly against the cheek, and clamp both arms against the chest. This will give a three-point or "tripod" support.

Don't swing the camera. Instead, twist your body from the waist up, holding the camera rigid. By pivoting with the hips, your body serves as a tripod.

Whenever possible, use a tripod. This accessory, together with a universal head, will do more than any other single device to give your films that sharp, steady, "professional" appearance on the screen.

To master the technique of panning, practice first with an unloaded camera. Aim the lens at an imaginary line, and then twist your body very slowly as you follow the line in the view finder. Push

the shutter button and hold it down for twenty seconds at a time. After a few tries, you will find that you will be able to follow the line at a smooth rate without wavering.

When you try your first actual "pan" shot, don't rush. Hold the camera on the initial scene for at least ten seconds and then start your slow sweep. For best results, no panorama view should include more than ninety degrees. As a matter of fact, a sweep of considerably less is preferred.

Since our eyes are accustomed to reading from left to right, pan shots should be made from left to right. When possible, pan up to the important part of the scene instead of starting with it. Pan slowly. Allowing at least ten seconds for a twenty-degree sweep. And above all, don't retrace your steps by going back over the same view.

So far, we have been concerned with motion of the camera in a horizontal plane to obtain a wider view. The same technique can be applied vertically to obtain a picture of a tree, a flag pole, or some vertical action. In this case, however, it is called a tilt.

Above all, don't aim the camera like a fire hose, changing from one point of view to another. To change camera angle, stop the camera, assume the desired point of view and then start up again.



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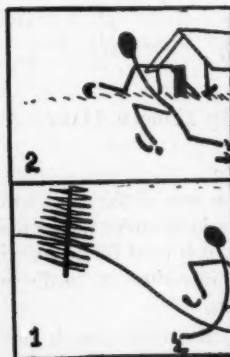
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Tempo Editing

(Continued from page 110)

You can use miniature sets, easily by proper editing.

INCORRECT



● Editing for exit, in frame "2" he is shown entering from same side as the exit in frame "1," and "meets himself." View upward. Fig. 5

A two inch boat in a large photographic tray can be given semblance of reality if the miniature is shot at 32 or 64 frames per second and if, actual, life-size closeups are cut in frequently.

When the boat tips, cut in a sequence of people

struggling in the water. The effect will be decidedly realistic. You can have an actor look at any sheet of blank paper and turn it into a telegraph blank by showing a closeup insert of the actor's hand holding a telegram. There is hardly a limit to the possibilities, but remember that the long and medium shots establish locale and general action *but the detail is clinched in the closeup.*

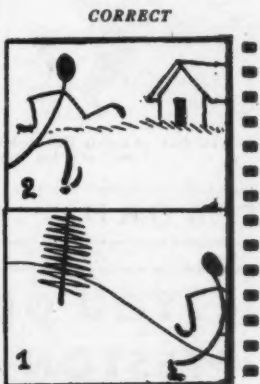
In working out your scenario, determine the exact action, show it in closeup then add medium and long shots to support this closeup. You will then find that *dramatic editing is very easy.*

Then the fun begins with *tempo editing.*

When a film has been *rough cut* and edited for dramatics and sequence, project it again and study the action carefully. Some scenes will drag; others are too short. Make a note of these. Go through the film and in each scene determine the frame which marks the actual beginning of interesting action. Count

backward to the eighth frame preceding this start, and cut the film. Then determine the last frame which shows any interesting (or pertinent) action and count on eight frames beyond this. Cut the film. Do this right through the film. Projection will show a pronounced improvement.

If you are following an actor who exits from one scene and enters into another, cut at four frames after his figure has left the film and allow four frames before he enters the next scene. This will provide for leisurely action. But if the scene is one of action and the actor is running, cut where half his body is still in the frame and cut the next scene after half his body is in the frame. The result will be a speeding up of the action which is not only appropriate to the fast action, but which actually adds to the feeling of suspense.



● When the actor exits at the right have him enter from the left. Fig. 6

An example is the rescue sequence as found in the average horse opera. The villain has the heroine bound to a stake and threatens her with the branding iron if she does not reveal the whereabouts of the *pa-peereez!* The hero is pounding along the trail at a mad gallop. There is a scene of the iron approaching the girl's face and an abrupt cut to the hero on the road. The cut is made back to the iron even before the hero reaches the edge of the field. Then the cuts are see-sawed, each growing shorter and shorter—branding iron and galloping hero—until we use alternate flashes as short as one second until the last flash of the hero brings him into the scene, and the audience sighs with relief, as a long sequence is pro-

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jected. By shortening the alternating flashes we build up to a crescendo—all by editing. The camera work, however, is easily and simply done with two sequences and the flashes cut from the long lengths.

Tempo cutting is one of the most necessary forms of editing for the beginner to master, but it is easy when the reason for it is kept in mind. By remembering that *film footage* means *screen time*, there is little trouble in controlling speed of action, or tempo, by controlling measurable film footage. You can actually control tempo with a ruler!

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Obviously there are refinements in edit-

ing, because film editing is an art, one of the most important in film production. You can edit satisfactorily from the start—and with practice, become as proficient as the most ambitious amateur films require.

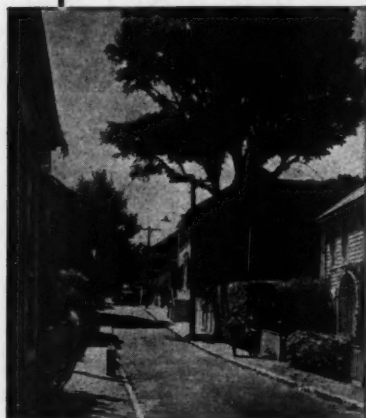


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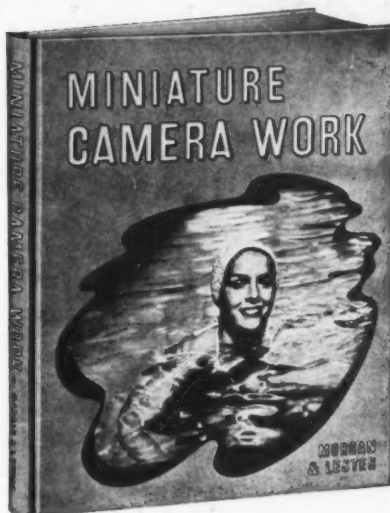
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. . . from Chapter 9, page 137, Children and Pets,
by DOUGLAS HASKELL

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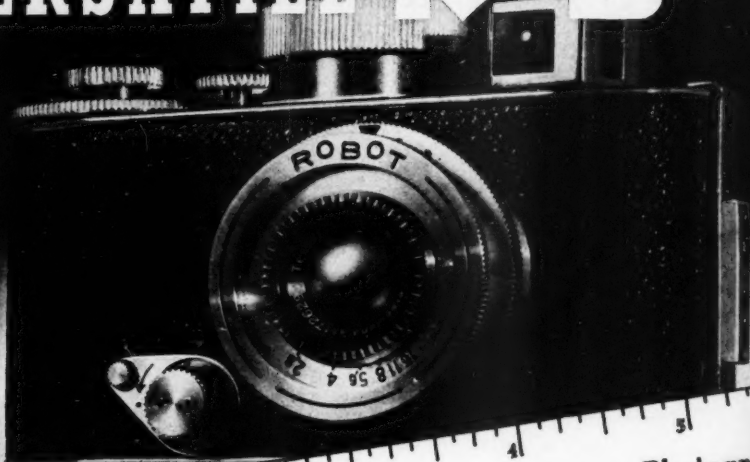
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